

**A STUDY TO ASSESS THE EFFECTIVENESS OF  
AROMATHERAPY MASSAGE ON LEVEL OF ANXIETY  
AMONG ELDERLY PEOPLE RESIDING IN SELECTED OLD  
AGE HOMES AT TIRUNELVELI.**



DISSERTATION SUBMITTED TO  
**THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY**  
**CHENNAI**  
IN PARTIAL FULFILMENT FOR THE DEGREE OF  
**MASTER OF SCIENCE IN NURSING**  
**APRIL 2014**

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**BY**

**Mrs. T.MALATHI**



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AROMATHERAPY MASSAGE ON LEVEL OF ANXIETY  
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HOMES AT TIRUNELVELI.**

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## TABLE OF CONTENTS

<b>CHAPTER No.</b>	<b>CONTENTS</b>	<b>PAGE No.</b>
<b>I</b>	<b>INTRODUCTION</b>	<b>1-14</b>
	Background of the study	1
	Need for the study	3
	Statement of the problem	7
	Objectives of the study	8
	Hypotheses	8
	Operational definitions	9
	Assumption	10
	Delimitations	10
	Projected outcome	10
	Conceptual framework	11-14
<b>II</b>	<b>REVIEW OF LITERATURE</b>	<b>15-28</b>
	Review of related literature	15
<b>III</b>	<b>RESEARCH METHODOLOGY</b>	<b>29-46</b>
	Research approach	29
	Research design	29
	Variables	30
	Setting of the study	30
	Population	31
	Sample	31
	Sample size	31
	Sampling technique	31
	Criteria for the selection of samples	32
	Development and description of the tool	33
	Content Validity	34
	Reliability	34
	Intervention	35

	Pilot Study	36
	Procedure for data collection	37
	Plan for data analysis	39
	Protection of human rights	40
<b>IV</b>	<b>DATA ANALYSIS AND INTERPRETATION</b>	<b>42-75</b>
	Organization of data	42
	Presentation of data	44
<b>V</b>	<b>DISCUSSION</b>	<b>70-75</b>
<b>VI</b>	<b>SUMMARY, CONCLUSION, LIMITATIONS, NURSING IMPLICATIONS, AND RECOMMENDATIONS.</b>	<b>76-83</b>
	<b>BIBLIOGRAPHY</b>	
	<b>APPENDICES</b>	



## LIST OF TABLES

<b>TABLE No.</b>	<b>TITLE</b>	<b>PAGE No.</b>
1.	Frequency and percentage distribution of demographic variables of the elderly persons with respect to (age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.)	44
2.	Frequency and percentage distribution of pre test level of anxiety in experimental and control group of elderly people.	54
3.	Frequency and percentage distribution of post test level of anxiety in experimental group and control group of elderly people.	56
4.	Mean and standard deviation of the pre test level of anxiety among elderly people in experimental group and control group.	58
5.	Mean and standard deviation of the post test level of anxiety among elderly people in experimental group and control group.	60
6.	Mean and standard deviation of pre and post test level of anxiety among elderly people in experimental group.	62
7.	Association of the post test level of anxiety among the elderly people in experimental group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.	64
8.	Association of post test level of anxiety among the elderly people in control group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.	67

## LIST OF FIGURES

<b>FIGURE No.</b>	<b>TITLE</b>	<b>PAGE No.</b>
1.	Conceptual Framework based on Roy`s adaptation model.	14
2.	Schematic representation of Research design.	29
3.	Schematic representation of Research methodology.	41
4.	Percentage distribution of age in experimental and control group.	49
5.	Percentage distribution of sex in experimental and control group.	49
6.	Percentage distribution of educational status in experimental and control group.	50
7.	Percentage distribution of religion in experimental and control group.	50
8.	Percentage distribution of occupation in experimental and control group.	51
9.	Percentage distribution of monthly income in experimental and control group.	51
10.	Percentage distribution of marital status in experimental and control group.	52
11.	Percentage distribution of number of children in experimental and control group.	52
12.	Percentage distribution of mode of admission in experimental and control group.	53
13.	Percentage distribution of duration of stays at old age home in experimental and control group.	53

14.	Percentage distribution of pre test level of anxiety in experimental and control group	55
15.	Percentage distribution of post test level of anxiety in experimental and control group	57
16.	Mean and standard deviation of the pre test level of anxiety among elderly people experimental group and control group.	59
17.	Mean and standard deviation of the post test level of anxiety among elderly people in experimental group and control group.	61
18.	Mean and standard deviation of pre and post test level of anxiety among elderly people in experimental group.	63

## LIST OF APPENDICES

APPENDIX	TITLE
A	Letter seeking and granting permission for conducting the study
B	Letter seeking expert's opinion for content validity
C	List of experts for content validity
D	Certificate of English editing
E	Certificate of Tamil editing
F	Copy of the tool for data collection-English
G	Copy of the tool for data collection-Tamil
H	Description of tool and scoring key
I	Certificate of Informed Consent
J	Certificate for Aromatherapy Massage

## **ABSTRACT**

“A study to assess the effectiveness of aromatherapy massage on level of anxiety among elderly people residing in selected old age homes at Tirunelveli” was done by Mrs.T.Malathi as a partial fulfillment of the requirement for the Degree of Master of Science in Nursing at Sri.K.Ramachandran Naidu College of nursing, Tirunelveli under the Tamil Nadu Dr. M.G.R. Medical University, Chennai during the year of April 2014.

### **The objectives of the study were:**

1. To assess the pre test level of anxiety among elderly people in experimental and control group.
2. To assess the post test level of anxiety among elderly people in experimental and control group.
3. To find out the effectiveness of aromatherapy massage on level of anxiety among elderly people in experimental group.
4. To compare the pre and post test level of anxiety among elderly people in experimental group.
5. To associate the post test level of anxiety among elderly people in experimental and control group with their selected demographic variables such as age, sex, marital status, education, occupation, monthly income, religion, number of children, mode of admission and duration of stay at old age home.

**The following hypotheses were formed for the study:**

All hypotheses are tested at 0.05 level.

**H<sub>1</sub>:** The mean post test level of anxiety among elderly people in experimental group will be significantly lower than the mean post test level of anxiety in control group.

**H<sub>2</sub>:** The mean post test level of anxiety among elderly people in experimental group will be significantly lower than their mean pre test level of anxiety.

**H<sub>3</sub>:** There will be a significant association between the post test level of anxiety among elderly people in experimental and control group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.

The study was based on the Roy's adaptation model. The Quantitative approach was used for this study. The study was conducted in UVSS New life old age home and Andhicholi old age home at Tirunelveli District. The design adopted for this study was quasi experimental pre and post test control group design to evaluate the effectiveness of aromatherapy massage on level of anxiety among the elderly people. The purposive sampling technique was used to select 30 samples for control group from Andhicholi old age home and the same method was used to select 30 samples for experimental group from UVSS New life old age home.

The data collection tool used for the study was Spielberger's State-trait anxiety inventory. The content validity of the tool was obtained from four nursing experts and one medical expert in the field of psychiatry. The reliability of the tool ( $r=0.9$ ) was established by test retest method by using Karl Pearson's correlation

coefficient formula. The tool was accepted as reliable by the clinical experts. Pilot study was conducted to find out the feasibility and done the data analysis.

Data collection was done by using the Speil Berger`s State-trait anxiety inventory and the data obtained were analyzed both in terms of descriptive and inferential statistics.

**The major findings of the study were:**

- In experimental group, the pre test mean value was 91.97 with the Standard deviation 17.11. In control group, the pre test mean value was 88.17 with the Standard deviation 16.33. The calculated 't' value was 0.80.
- In experimental group the post test mean value was 62.13 with Standard deviation of 16.19. In control group the post test mean value was 89.37 with Standard deviation of 17.03. The calculated 't' test value was 6.34.
- In experimental group, it showed the mean value of 91.97 with standard deviation 17.11 in pre test and a mean value of 62.13 with standard deviation 16.19 in post test. The mean difference was 29.84. The calculated 't' test value was 6.93.
- There was no significant association of the post test level of anxiety among elderly people in the experimental group with their selected demographic variables
- There was no significant association of the post test level of anxiety among elderly people in control group with their selected demographic variables.

**On the basis of the findings of the study it is recommended that:**

The following studies can be undertaken to strengthen aromatherapy massage as a good remedy for the psychological and emotional problems of the elderly people.

1. A similar study can be conducted with larger samples.
2. A similar study can be conducted for the patients with other conditions like stress and depression.
3. A similar study can be conducted for school students to reduce their examination anxiety.
4. A similar study can be conducted among the wife's of alcoholics to reduce anxiety and stress.
5. A comparative study can be conducted on aromatherapy massage Vs laughter therapy in level of anxiety among elderly people.

## **Conclusion**

From the result of the study, it was concluded that providing aromatherapy massage to the elderly people was effective on level of anxiety. Therefore the investigator felt that more importance should be given for aromatherapy massage to reduce the anxiety among the elderly people.



# CHAPTER- I

## INTRODUCTION

### BACKGROUND OF THE STUDY

*"Aging is not lost youth, but a new stage of  
opportunity and strength."*

*–Betty Friedan*

Aging is a normal process and it is considered as a normal, biological and an inevitable process. The process of aging is classically depicted as one of constant and inexorable decline after reaching a peak of bodily function and efficiency around the second decade of life. Elderly is a crucial phase where the physiological, psychological and socio-cultural changes in elderly contribute to develop anxiety (King, 1993).

“Old age is an incurable disease”. More recently Sir James Sterling Ross commented “you do not heal old age, you protect it, you promote it, and you expand it”. Aging is a major life change, which includes physiological and psychological changes. Old age should be regarded as a normal inevitable biological phenomenon (K. Park, 1998).

In India life expectancy has gone up from 20 years in the beginning of the 20<sup>th</sup> century to 62 years today. Better medical care and low fertility have made the elderly the fastest growing section of the society. In France, it took 120 years for the grey population to double from 7% to 14%. But in India the grey population has doubled in 25 years. But it is interesting to note that while the numbers have gone up,

quality of life has gone down. Industrialization, migration, urbanization, westernization have severely affected value systems(**Help Age India**).

Gradually there is a trend in the Indian family to become nuclear as more and more youngsters are leaving their family either for occupation or education to go to different cities and countries. As a consequence, the elderly are either left alone, or they are taken to old age homes. This causes more isolation, anxiety and depression in the elderly people. By all accounts, the elders constitute a less privileged and more vulnerable group possibly with a few exceptions(**Bloom et al. 2010**).

The population of India is 1.029 billion. Nearly 77 million constitute the elderly population, among them 75% of elderly persons live in rural areas and 25% live in urban areas. The records show that 38 millions were males and 39 millions were female population (**National population survey, 2001**).

The term anxiety has become a part of our life. The concept of anxiety may differ according to the individual's state of context and interpretation. It is recognized that certain amount of anxiety is desirable, productive and can facilitate the individuals to grow but when the anxiety exceeds disturb the normal functions (**Niraja Ahuja, 2007**).

Anxiety is a normal emotion. All human beings develop it as a means of protection from danger and threat when we perceive danger. Human body undergoes a number of automatic physiological changes such as perspiration, restlessness, discomfort, palpitation and tightness in the chest (**Mary C. Townsend, 2011**).

Thirty nine percent of people over 65 years of age suffer from some limitation of activity due to chronic conditions and 11% are unable to carry out major activities

because of their anxiety towards illness and also they suffer from some kind of anxiety disorders (**National Health Interview Survey,2001**).

Many researchers have stated that anxiety is uncontrollable and ambiguity is more stressful for geriatric, which can be predicted, modified or terminated. Nurses being the central figure in a geriatric care can help to identify the level of anxiety and provide opportunity for these people to cope with the stressful situation.

Creativity is necessary in meeting the elderly persons every day by the care givers both in acute and critical care environment. For the elderly persons many alternative and complementary therapies including meditation, progressive muscle relaxation, aromatherapy, hydrotherapy, humor therapy, imagery, massages, music and relaxation can be used successfully as adjunct therapies to help in reducing stress and anxiety(**Kelgan, 2003**).

## **NEED FOR THE STUDY**

The demographics of aging continue to expand. Since 1900 the elderly population has doubled approximately three times. Although this group has increased by more than 100% since 1960, the general population has increased only 50%.India`s population ages 50 and older will reach 34% by 2050. Between 2010 to 2050, the share 65 and older is expected to increase from 5% to 14%, while the share in oldest age group (80 and older) will triple from 1 percent to 3 percent. Retirement, loss of valued social interaction, loss of a well established role, even loss of income & loneliness due to death of spouse or familial separation in old age results in stress and anxiety among elderly people(**United Nation Population Division, 2011**).

Studies identified the risk factors that appear to place the people at the risk of requiring institutionalization. With the advent of the nuclear family, urbanization, influence of western culture and changed life styles there is no space for the elders in the families and they may go for institutionalization. Whatever the reason for separation it means those elderly persons loose assistance from their children. This makes them physically and emotionally neglected, and they face number of psychological problems such as anxiety, depression, loneliness, feeling of insecurity and social isolation(**Eustis and associates, 1984**).

Studies of elderly show that they tend to be apathetic in their affective life. Anxiety and depression are more prevalent in elderly living at geriatric homes than in elderly living at their own homes and going to geriatric clubs regularly. Studies have shown that generalized anxiety disorder is more common in the elderly, affecting 7% of seniors, than depression, which affects about 3% of seniors. Anxiety in elderly is a serious problem in India now. It is one of the most common emotional problems in elderly population which is often overlooked by health care professionals (**Eric J. Lenze, 2006**).

In addition, anxiety symptoms arising from physical problems or medication side effects are more frequent among the elderly. For example breathing problems, irregular heartbeats and tremors can stimulate symptoms of anxiety. Anxiety can occur along with other psychiatric problems also; over half of elderly persons with severe depression also meet the criteria for generalized anxiety disorder (**Morgan,1993**).

Fortunately, there are many treatments for anxiety disorders. These include the use of relaxation techniques, psychotherapy and medications. Frequently with

effective treatment, the person can handle the challenges of their life. But the lack of social support system and the physical weakness among elderly affect the usual treatment such as counselling; psychotherapy, pharmacotherapy, as well as they are very costly which cannot be afforded by the institutionalized elderly(**Gellis ZD, 2009**).

Aromatherapy is a form of alternative medicine that uses volatile plant materials, known as essential oils, and other aromatic compounds for the purpose of altering a person's mind, mood, cognitive function or health. Recent studies indicate that alternative methods are useful in relieving anxiety. Studies have shown that aromatherapy is one of the traditional as well as therapeutic methods which have no side effects(**Spencer and Jacobs, 1999**).

Studies from 1990 to 2010 on using aromatherapy for people with anxiety or anxiety symptoms and examined their clinical effects. The review was conducted on available electronic databases to extract journal articles that evaluated the anxiolytic effects of aromatherapy for people with anxiety symptoms. The results were based on 16 randomized controlled trials examining the anxiolytic effects of aromatherapy among people with anxiety symptoms. Most of the studies indicated positive effects to quell anxiety. No adverse events were reported. It is recommended that aromatherapy could be applied as a complementary therapy for people with anxiety symptoms. Further studies with better quality on methodology should be conducted to identify its clinical effects and the underlying biologic mechanisms. (**Cheung WM., et al, 2011**)

Studies in Japan have found that massage therapy combined with aromatherapy decreased stress among elderly patients. Aromatherapy massage was performed twice a week for a total of eight times, according to a press release from

Toho University, in Japan. A questionnaire and measurement of stress marker levels (salivary amylase activity) were administered before and after the first, fifth, and eighth aromatherapy massages, according to the press release. "A decrease in stress after aromatherapy massage compared to before each massage was confirmed at all measurement times and with the stress marker," the researchers noted, adding, "aroma massage appears likely to prove effective in reducing psychological stress among elderly patients under long-term hospitalization" (**Satou T, Chikama M et al, 2012**).

Ten RCTs (Randomized Clinical Trial) found that 'massage and aromatherapy' have effectiveness on psychological well-being, and they act efficiently against anxiety (**Ernst, Pittler and Wider, 2006**).

Aromatherapy massage helps muscles indulge into deep relaxation thus healing the body of the day to day tensions. It also relieves water retention, stimulates the lymphatic system, improves the immune system and gets rid of the body's toxins naturally. The body needs aromatherapy massage as often as possible. It is a great therapy for tension, fatigue or injury. These massage of the back, shoulders, arms, hands, lower legs and feet for 30 minutes. The process of having a gentle massage with aromatherapy oils is a wonderfully relaxing and soothing experience. Depending on an individual's needs, essential oils can be used to soothe, uplift, energize, relax and stimulate. The nostrils in this massage are joined to a component of brain which is usually known as the limbic system. This limbic system manages emotions and has a great influence on the hormones and the human nervous system (**Battaglia, 2003**).

When one inhales the molecules of essential oil, the messages are communicated to limbic system in body and it has positive effect on the body. It improves the heart rate, reduces the stress level, controls blood pressure, improves

breathing, sharpens memory, and helps in digestion and controls the human immune system(Cooke and Ernst, 2000).

Aromatherapy can be used for a variety of physical and emotional problems including stress, anxiety, depression, fatigue, pain, insomnia, coughs and colds, burns, scar tissue, digestive problems and skin disorders.Aromatherapy treatments can reduce patients' level of anxiety and stress. According to various research studies, essential oils are available to help deal with stressful problems. Modern scientists have been doing researches on aromatherapy and they have proven its healing properties by using essential oils. The use of essential oils can help people control stress, alleviate anxiety and tension(Keville and Green, 2009).

Anxiety and depression are more prevalent in elderly living at geriatric homes.The researcher felt that a study to reduce anxiety among institutionalized elderly by managing their emotions. There are only few studies conducted in this area. So the researcher selected this problem for research study which is intended to find the effectiveness of aromatherapy massage on level of anxiety among the institutionalized elderly.

## **STATEMENT OF THE PROBLEM**

A STUDY TO ASSESS THE EFFECTIVENESS OF AROMATHERAPY MASSAGE ON LEVEL OF ANXIETY AMONG ELDERLY PEOPLE RESIDING IN SELECTED OLD AGE HOMES AT TIRUNELVELI.

## OBJECTIVES OF THE STUDY

1. To assess the pre test level of anxiety among elderly people in experimental and control group.
2. To assess the post test level of anxiety among elderly people in experimental and control group.
3. To find out the effectiveness of aromatherapy massage on level of anxiety among elderly people in experimental group.
4. To compare the pre and post test level of anxiety among elderly people in experimental group.
5. To associate the post test level of anxiety among elderly people in experimental and control group with their selected demographic variables such as age, sex, marital status, education, occupation, monthly income, religion, number of children, mode of admission and duration of stay at old age home.

## HYPOTHESES

**H<sub>1</sub>:** The mean post test level of anxiety among elderly people in experimental group will be significantly lower than the mean post test level of anxiety in control group.

**H<sub>2</sub>:** The mean post test level of anxiety among elderly people in experimental group will be significantly lower than their mean pre test level of anxiety.

**H<sub>3</sub>:** There will be a significant association between the post test level of anxiety among elderly people in experimental and control group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.



## **OPERATIONAL DEFINITIONS**

### **Assess**

In this study it denotes the way to finding out the effectiveness of aroma therapy massage on level of anxiety among elderly people residing in the old age home.

### **Effectiveness**

In this study effectiveness refers to the extent to which aromatherapy massage was achieve the desired effect in the level of anxiety among the elderly people and was measured by Speil Berger`s State trait Anxiety inventory.

### **Aromatherapy**

Aromatherapy is one form of alternative therapy using 6 drops of lavender oil diluted with 30ml of coconut oil for the purpose of altering a elderly person`s emotion.

### **Massage**

Massage refers to rubbing of the muscles of feet, lower legs, hands, arms, neck, shoulder and forehead with lavender oil in a diluted form for 30 minutes twice a week with the interval of 2 days for about 8 times. The massage was given by Efflurage method of massage to feet, hands, neck, forehead and Petrissage method of massage was given to arms, shoulder and lower legs.

### **Anxiety**

Anxiety is a psychological state of intense worry felt by the elderly people about their developmental changes as well as their situation and is measured by Speil Berger`s state-trait anxiety inventory.

### **Elderly people**

Elderly people refer to the male and female individuals above 60 yrs of age residing at selected old age home.

### **Old age home**

This term refers to an institution run by private agency which gives care, shelter and food for the elderly people on the basis of free of charge.

### **ASSUMPTION**

- Institutionalized elderly people may have anxiety.
- Female elderly people may have more anxiety than male.
- Aromatherapy massage may reduce anxiety among institutionalized elderly people.

### **DELIMITATIONS**

- The study is limited to elderly people above 60 yrs of age.
- The study is limited to elderly people who are having mild & moderate level of anxiety.
- The study period is limited to four weeks.
- The study is limited to selected old age homes at Tirunelveli.

### **PROJECTED OUTCOME**

- \* The study will prove the effectiveness of aroma therapy massage on level of anxiety among elderly people.
- \* The study increases the scope of aroma therapy massage on elderly anxiety in old age homes.

## **CONCEPTUAL FRAMEWORK**

Conceptual models or conceptual framework represent a less formal attempt at organizing phenomena than theories. Conceptual models broadly present an understanding of the phenomena of interest and reflect the assumption and philosophical view of the model designer.

One of the important purposes of conceptual framework is to communicate clearly the relationship of various concepts. It guides an investigator to know what data needs to be collected and gives direction to the entire research process.

In the present study the conceptual model was adopted from the Roy's adaptation model which was designed by Sr. Callista Roy's in the year (1970). Roy's adaptation model focuses on the concept of adaptation. She considered individual as an open system, adjusts with stimuli of self and environment.

In this study, the elderly persons with anxiety are considered to be open adaptive system.

## **SYSTEM**

In her model Roy conceptualizes the person as a holistic perspective. Individual aspects of parts act together to form a unified being. Additionally, on living systems, persons are in constant interaction with their environment. Between the system and the environment occurs an exchange of information, matter and energy. Characteristics of a system include input, control process and feedback.

In this study, the system is elderly people and the environment is their institution where they are living. Both will have constant interaction with each other.

## **INPUT**

The adaptive system has input of stimuli and adaptation level, output as behavioural responses that serve as feedback, control process known as coping mechanisms.

Demographic variables of the elderly people such as age, sex (internal factors) education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home (external factors) precipitates the coping mechanism of the elderly people in old age home reflected either as adaptive or maladaptive responses. Because of internal and external factors interaction, most of the elderly people in old age home will have anxiety and reduced coping abilities. Anxiety level was assessed by Speil Berger's State trait Anxiety inventory as pre test.

## **CONTROL PROCESS/ COPING MECHANISMS**

Roy had used the term coping mechanism to describe control processes of the person as an adaptive system, which are called the "Regulator" and "Cognator".

A regulator subsystem is a coping mechanism which responds through complex perception and information processing through learning, judgement and emotion. The maladaptive pattern of anxiety alters both regulator and cognator subsystem can be noted as inadequate sleep and rest. The changes in cognator subsystem can be noted as reduced concentration, poor problem solving, maladaptive coping mechanism, decreased academic performance, increased self esteem, increased feeling of inadequacy and social integrity.

There is imbalance of regulator and cognator subsystem because of maladaptive response. It is balanced by giving aromatherapy massage.

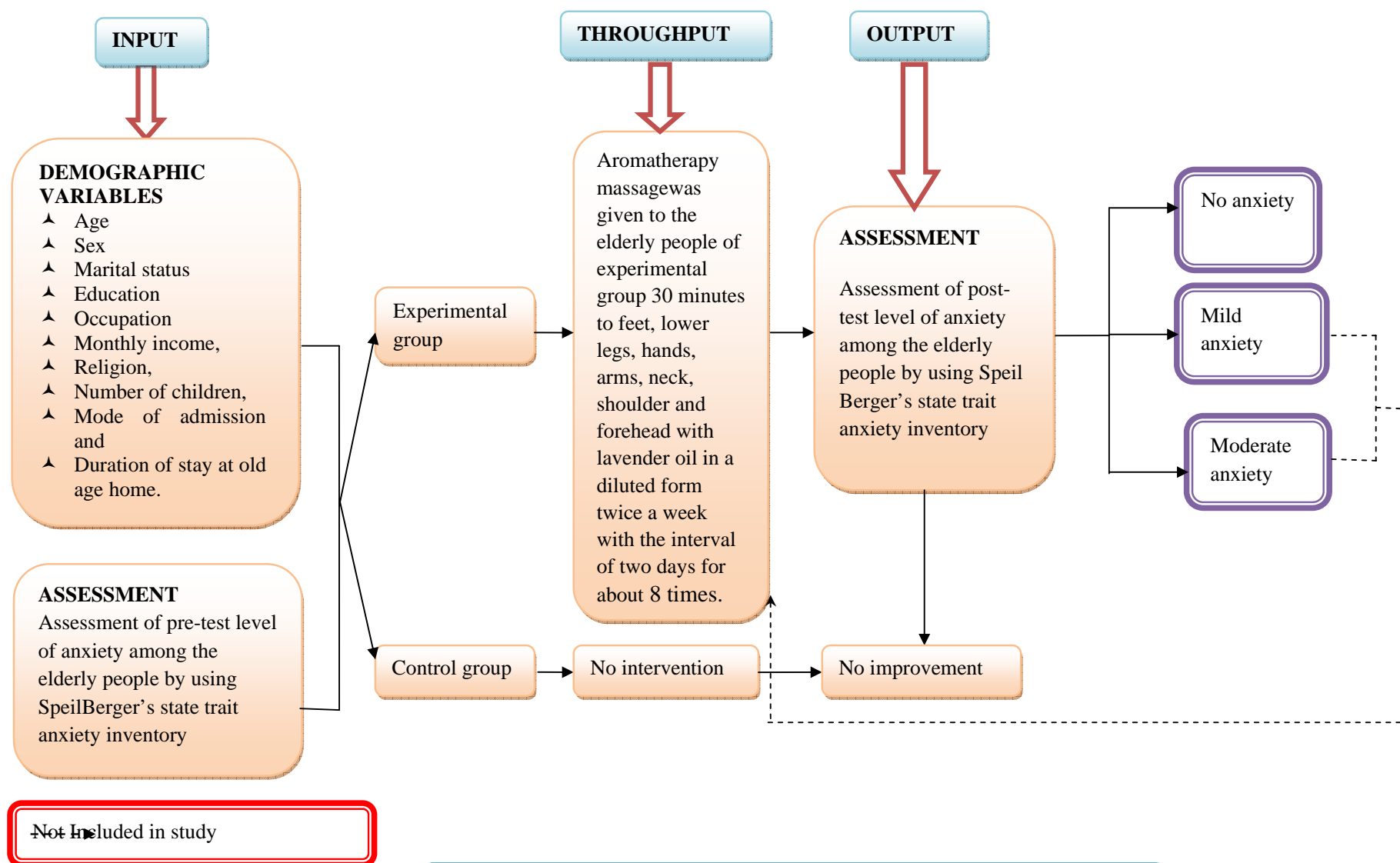
Aromatherapy massage was given to the elderly people of experimental group 30 minutes to feet, lower legs, hands, arms, neck, shoulder and forehead with lavender oil in a diluted form twice a week with the interval of two days for about 8 times. Aromatherapy massage helps the elderly people in old age home to reduce the level of anxiety.

### **EFFECTORS/ADAPTIVE MODES**

Although regulator and cognator processes are essential to the adaptive responses of the person, the processes are not directly observable. The adaptive modes are the physiological, self concept, role function and interdependence modes. By observing the person's behaviour in relation to the adaptive modes, the nurse can identify adaptive or ineffective responses in relation to health and illness.

### **OUTPUT AND FEEDBACK**

Output is the identification of post test level of anxiety among the elderly people by using Spielberger's state trait anxiety inventory.



**Figure 1 :Conceptual Framework based on Roy's Adaptation Model**

## **CHAPTER-II**

### **REVIEW OF LITERATURE**

Review of literature refers to an extensive and systematic examination of publications relevant to the research project. One of the most satisfying aspects of the literature review is the contribution it makes to the new knowledge, insight and general scholarship of the researches. (Basavanthappa B.T) Researcher almost never conducts a study in an intellectual vacuum. Their studies are undertaken within the context of an existing knowledge base. Researcher generally undertakes the literature review to familiarize him/ her with the knowledge base (Polit and Hungler 1991).

The literature reviewed for present study has been organized and presented under the following sections.

**Section-A Studies related to anxiety among elderly persons.**

**Section-B Studies related to use of lavender oil.**

**Section-C Studies related to aromatherapy massage on anxiety.**

#### **SECTION-A STUDIES RELATED TO ANXIETY AMONG ELDERLY PERSONS**

**Gigini Ibrahim, (2010)** conducted a study that social support was linked with death anxiety and fear of the unknown, but not with fear of dying and fear of the known. Close relationships can increase self esteem and may be a buffer against death anxiety, whereas disruptions of such relationships may lead to death awareness and concerns. However, the researcher found only a weak effect for self esteem in predicting death anxiety among older adults.

**Jurnbull JM, (2009)** did a correlation study to examine social demographic, psychological and physical health correlation with separation anxiety in elderly subjects; they were determined by structured clinical interview measured by state trait anxiety inventory scale. Adult separation anxiety was moderately correlated with juvenile separation however adult separation anxiety was also associated with a life time history of any anxiety disorders to explore this form of anxiety. Clinical workers with the elderly had to require specific form of intervention.

**Yalcin and Orhan, (2009)** conducted a study on prevalence of anxiety disorders among elderly people. The objective of the study determine current and life time prevalence of anxiety disorders and to explore the relationship, if any between possible risk factors and anxiety disorders, amongst elderly people living in Sivas, Turkey. The sample consisted of 462 persons and was assessed by using a socio-demographic form and the anxiety module of SCID-1. The current prevalence for all types of anxiety disorder was found to be 17.1% overall and the life time prevalence was found to be 18.6%. The current prevalence rates for particular disorders were found to be 0.4% for panic disorder, 3.2% for OCD, 1.9% for post traumatic stress disorder, 2.8% for social phobia, 11.5% for specific phobia, and 6.9% for generalized anxiety disorder. Life time prevalence rates for these disorders (except GAD) were 1.1%, 3.2%, 3.0%, 2.85%, 11.5% respectively. Anxiety disorders are more common among elderly people than was previously thought.

**RixtZiljstra. G. A., et al., (2008)** did a cross sectional study to assess the presence of feelings of anxiety and symptoms of depression among older persons who avoid activity for fear of falling and to assess whether the feelings of anxiety and symptoms of depression are independently associated with the severity of fear of



falling and fear related avoidance in two urban areas of Netherlands. Participants include 540 elderly and were administered with self administered questionnaires and 14 item Hospital anxiety and depression scale (HADS). This study shows that 28.2% and 26.1% of the persons with severe fear of falling had feelings of anxiety and symptoms of depression, respectively. These rates were 28.5% and 22.6% for participants with severe fear related activity avoidance. Multivariate analyses revealed that participants with severe fear of falling were more likely to have feelings of anxiety and symptoms of depression than those with mild fear of falling. Furthermore, persons who reported severe fear related activity avoidance were more likely to have feelings of anxiety than mild avoiders.

**Hassed, (2006)** did a study on association of hormones on the affect in elderly 180 elderly was selected for the study. Blood was taken from the participants and was sent for analysis. The study shows that 90% of the elderly had decreased serum cortisol level, dopamine level which led to the development of anxiety and depression.

**Eric Lenze. J., et al., (2006)** conducted a cross sectional study to measure current and lifetime rates and associated clinical features of anxiety disorders in 182 depressed elderly patients by using a structured diagnostic instrument in primary care and psychiatric settings. The results showed 35% of older subjects with depressive disorders had atleast one lifetime anxiety disorder diagnosis and 23% had a current diagnosis. The most common current co-morbid anxiety disorders were panic disorder (9.3%), specific phobias (8.8%) and social phobia (6.6%). Symptoms of generalized anxiety disorder were present in 27.5% of depressed subjects. The present study found

a relatively high rate of current and lifetime anxiety disorders in elderly depressed individuals.

**Edwin, et al., (2004)** conducted a longitudinal study to determine whether anxiety disorders predict mortality in older men and women in the community. The random samples (n=3107) of older men and women (55-85 years) in Netherlands, were selected with a follow-up period of 7.5 years in which the anxiety disorders were assessed according to DSM- III criteria is a 2 stage screening design with the help of the centre for epidemiological studies Depression scale. The result showed that in men, adjusted mortality risk was 1.78 in cases with diagnosed anxiety disorders whereas in women, no significant association was found with mortality. The study revealed a gender difference in association between anxiety and mortality.

**Kate. Watters and Elizabeth Breeze (2004)** conducted a cluster-randomized trial on local area deprivation and urban-rural differences in anxiety and depression among people older than 75 years in Britain, by using postal codes were used to link census area information to individual data on depression and anxiety in 13349 samples. Jaruan Index was used as the tool along with general health questionnaire and Geriatric depression scale. The results showed that living in the most socioeconomically deprived areas was associated with depression (OR=1.4) and there was no association with anxiety. Living in the highest density and intermediate low-density areas was associated with depression (OR=1.6 and 1.5) and anxiety (OR=1.5 and 1.3) compared with the lowest density areas. Higher population density was consistently associated with increased depression and anxiety.

**Kari kvaal., (2003)** conducted a cross sectional study to test the hypothesis that typical characteristics of geriatric patients are associated with a higher level of

anxiety symptomatology. The data was from the Norwegian Health survey 1995, a random population study which was carried out by statistics Norway and used the 25-item version of the Hopkins symptoms checklist (HSCL), which primarily measures emotional symptoms. The mean score was significantly higher among female participants living alone and subjects with lower education, one or more chronic disorders, problems getting out of the house, and home-nursing/home help. The final model explained somatic symptoms and depressive symptoms markedly better than anxiety symptoms. The effect of gender was restricted to the factor of somatic where women scored significantly higher ( $p < 0.01$ ) and to live alone related solely to depressive symptoms ( $p < 0.002$ ). A worse economy was associated with a higher level of somatic as well as depressive symptoms.

**Deeg. D. J et al., (2003)** conducted a cross sectional study on co-morbidity and risk pattern of depression, generalized anxiety disorder and mixed anxiety disorder in later life in Amsterdam. Through random sampling, 3790 people, aged 65-86 years, were selected from 30 general practices. The tools used were Cambridge examination of mental disorders of the elderly, (MMSE) and Instrumental activities of Daily Living (IADL) scale. The results showed that the prevalence of generalized anxiety was higher among people with depression (14.5%). The prevalence of depression in people with generalized anxiety was 60.4% women showed significantly increased co morbidity than men.

## **SECTION-B STUDIES RELATED TO USE OF LAVENDER OIL**

**Ernst E., et al., (2012)** conducted a study on lavender an anxiolytics. The aim is to critically evaluate the efficacy/effectiveness of lavender for the reduction of stress/anxiety. Seven electronic databases were searched to identify all relevant studies

that include all methods of lavender administration. Data extraction and the assessment of the methodological quality of all included trials were conducted by two independent reviewers. The results from seven trials appeared to favour lavender over controls for at least one relevant outcome.

**Kinzelman AO, et al., (2009)** conducted a study on the effects of lavender and rosemary essential oils on test-taking anxiety among graduate nursing students. Test taking in nursing school can produce stress that affects the ability of students to realize their goals of graduation. The findings showed that the use of lavender and rosemary essential oil sachets reduced test-taking stress in graduate nursing students as evidenced by lower scores on test anxiety measure, personal statements, and pulse rates.

**Halm, M.A, et al., (2009)** did a study on use of the essential oil lavandin to reduce preoperative anxiety in surgical patients and they were randomly assigned to either control (standard care), experimental (standard care plus essential oil lavandin) group. The findings showed that the lavandin group had lower anxiety.

**R. W. Lea., et al, (2007)** investigated the effects of lavender odour inhalation over 2 weeks or 24 h periods, on gerbil behaviour in the elevated plus maze in mature male and female gerbils, and compared results with the effects of diazepam (1 mg/kg) i.p. after 30 min and 2-week administration. Traditional measures of open entries showed an increasing trend over the 2 weeks exposure, whereas ethological measures indicative of anxiety; stretch-attend frequency and percentage protected head-dips, were significantly lower. Exploratory behaviour, total head-dip frequency, increased after 24 h lavender and 2 weeks exposure. These results are comparable with diazepam administration. There were sex differences in protected head-dip an

ethological indicator of anxiety: females showed a significant decrease in protected head-dips compared to both males and to female controls. The findings showed that the exposure to lavender odour may have an anxiolytic profile in gerbils similar to that of the anxiolytic diazepam. In addition, prolonged, 2-week lavender odour exposure increased exploratory behaviour in females indicating a further decrease in anxiety in this sex.

**Yotsuya Y., et al, (2005)** conducted study on reduction of mental stress with lavender odorant. The tool used was Japanese version of Cox and Mackay's stress/arousal adjective checklist. Three groups were studied in that one group of 14 was placed into a sound protected room for 20 min without the presentation of an odour, an analogous group of 15 received the odour oil, and one group of 13 received a nonstressful condition. The findings suggested that lavender odorants were associated with reduced mental stress and increased arousal rate.

**Lee, S.Y., (2005)** conducted a study on the effect of lavender aromatherapy on cognitive function, emotion, and aggressive behaviour of elderly with dementia. Lavender aromatherapy was administered to experimental group I for 2 weeks, jojoba oil massage was administered to the experimental group II for 2 weeks. The findings showed that experimental group I did not show significant differences in cognitive function in relation to the experimental group II and control group and experimental group I showed significant differences in emotion and aggressive behaviour in relation to the experimental group II and control group.

**Deecke, L, et al., (2005)** conducted a study on patients between the ages of 18 and 77 years (half women, half men) were assigned to one of four independent

groups. While waiting for dental procedures patients were either stimulated with ambient odour of orange or ambient odour of lavender. These conditions were compared to a music condition and a control condition (no odour, no music). Anxiety, mood, alertness and calmness were assessed while patients waited for dental treatment. Statistical analyses revealed that compared to control condition both ambient odours of orange and lavender reduced anxiety and improved mood in patients waiting for dental treatment. These findings support the previous opinion that odours are capable of altering emotional states and may indicate that the use of odours is helpful in reducing anxiety in dental patients.

**Rosenvinge H., et al., (2004)** conducted a study to determine whether aromatherapy with lavender oil is effective in the treatment of agitated behaviour in patients with severe dementia. The sample consisted of fifteen patients in long-stay psychogeriatric ward meeting ICD-10 diagnostic criteria for severe dementia and suffering from agitated behaviour defined as a minimum score of three points on the Pittsburgh Agitation Scale (PAS). A 2% lavender oil aromatherapy stream was administered on the ward for a two hour period alternated with placebo (water) every other day for a total of ten treatment sessions. The findings showed that lavender oil administered in an aroma stream shows modest efficacy in the treatment of agitated behaviour in patients with severe dementia.

**Morris N., (2003)** conducted a study on the effects of lavender (*Lavendula angustifolium*) baths on psychological well-being. The aim is to use lavender baths to improve positive mood state and a positive outlook with respect to the future. The study was a single blind and randomised control trial. Forty participated in Study 1 and 40 in Study 2. Participants were randomly allocated to use either

grapeseed oil or 80% grapeseed oil and 20% lavender oil in their bath for 14 days. The tool used in Study 1, the UWIST mood adjective checklist and In Study 2, the MacLeod and Byrne Future Events procedure. The results suggest that in Study 1 psychologically positive mood changes were found after the bathing regimen for energetic arousal, tense arousal, hedonic tone and anger-frustration. Only anger-frustration showed a selective effect for lavender oil. In the second study negative responses about the future were selectively reduced after lavender oil baths.

### **SECTION-C STUDIES RELATED TO AROMATHERAPY MASSAGE ON ANXIETY**

**Vivengibbs, (2012)** evaluated the role of Swedish massage and aromatherapy massage to alleviate the anxiety of oncology patients. A review of the literature was undertaken to investigate results of research that has been performed in this area, in order to provide evidence for practice. The result of the review demonstrated immediate anxiety relief associated with both treatments.

**Conrad P, Adams C. (2012)** conducted a study to evaluate aromatherapy for anxiety and/or depression in women at high risk postpartum. Twenty-eight women, 0-18 months postpartum, were randomized to either the inhalation group or aromatherapy hand m'technique. Treatment consisted of 15 minute sessions, twice a week for four consecutive weeks. An essential oil blend of rose otto and *lavandula angustifolia* @ 2% dilution was used in all treatments. All subjects completed the Edinburgh Postnatal Depression Scale (EPDS) and Generalized Anxiety Disorder Scale (GAD-7) at the beginning of the study and then at midpoint and at the end of the study. Midpoint and final scores indicated that aromatherapy had significant improvements greater than the control group on both EPDS and GAD-7

scores. There were no adverse effects reported. The pilot study indicates positive findings with minimal risk for the use of aromatherapy as a complementary therapy in both anxiety and depression in the postpartum woman.

**Cherkin DC., et al., (2010)** conducted a study to evaluate the effectiveness of therapeutic massage for persons with generalized anxiety disorder (GAD). Sixty-eight persons with generalized anxiety disorder were randomized to therapeutic massage (n=23), thermotherapy (n=22), or relaxing room therapy (n=23) for a total of 10 sessions over 12 weeks. The tools used were Hamilton Anxiety Rating Scale (HARS), Patient Health Questionnaire (PHQ-8). Generalized estimating equation (GEE) regression was used for data analysis. The results showed that massage was not superior to the control treatments, and all showed some clinically important improvements, likely due to some beneficial but generalized relaxation response. Because the relaxing room treatment is substantially less expensive than the other treatments, a similar treatment packaged in a clinically credible manner might be the most cost effective option for persons with Generalized Anxiety Disorder who want to try relaxation-oriented CAM therapies.

**Kenji Fukui, et al., (2009)** examined how aromatherapy massage influenced psychologic and immunologic parameters in 12 breast cancer patients in an open semi-comparative trial and compared the results 1 month before aromatherapy massage as a waiting control period with those during aromatherapy massage treatment and 1 month after the completion of aromatherapy sessions. The patients received a 30 min aromatherapy massage twice a week for 4 weeks (eight times in total). The results showed that anxiety was reduced in one 30 min aromatherapy massage in State-Trait Anxiety Inventory (STAI) test and also reduced in eight



sequential aromatherapy massage sessions in the Hospital Anxiety and Depression Scale (HADS) test. The results further suggested that aromatherapy massage ameliorated the immunologic state. Further investigations are required to confirm the anxiolytic effect of aromatherapy in breast cancer patients.

**Ramirez AJ, et al., (2007)** conducted a study on the effectiveness of supplementing usual supportive care with aromatherapy massage in the management of anxiety and depression in cancer patients through a pragmatic two arm randomized controlled trial. The findings suggest that the patients receiving aromatherapy massage also described greater improvement in self-reported anxiety at both 6 and 10 weeks postrandomization.

**Finucane, J, et al., (2007)** conducted a study on the effects of aromatherapy massage with music on the stress and anxiety levels of emergency nurses. Staff occupational stress was assessed pre- and post- 12 weeks of aromatherapy massage with music and anxiety was measured pre and post each massage session. The result showed that the aromatherapy massage with music significantly reduced anxiety.

**Hussey, J.R. et al., (2007)** conducted a randomized study on the effect of massage therapy compared to guided relaxation on well being and stress perception among older adults. Participants received 50 minutes massage or guided relaxation sessions twice weekly for 4 weeks by using Swedish, neuromuscular and myofascial techniques of massage. For the relaxation group, an appropriately trained assistant read a script to guide the participant in using visualization and muscle relaxation. The findings showed that significant improvements were found for the anxiety, depression, vitality, general health and positive well-being subscales of the general well being schedule.

and for perceived stress among the massage participants compared to guided relaxation.

**Lee MS., et al., (2006)** investigated the effects of aromatherapy massage on anxiety and self-esteem in Korean elderly women. A quasi-experimental, control group, pretest-posttest design was used. The subjects comprised 36 elderly females: 16 in the experimental group and 20 in the control group. Aromatherapy massage using lavender, chamomile, rosemary, and lemon was given to the experimental group only. Each massage session lasted 20 min, and was performed 3 times per week for 2-3 week periods with an intervening 1-week break. The intervention produced significant differences in the anxiety and self-esteem and no significant differences in blood pressure or pulse rate between the two groups. These results suggest that aromatherapy massage exerts positive effects on anxiety and self-esteem.

**Kim EH., et al., (2005)** verified the effect of aromatherapy massage on constipation in the elderly. The experimental group received abdominal massage using essential oils with Rosemary, Lemon, and Peppermint, and the control group received a placebo massage. The tool used to evaluate the degree of constipation was CAS (constipation assessment scale) and the number of bowel movements per week. Data was analyzed by repeated measures of ANOVA using the SPSS program. The score of CAS of the experimental group was significantly lower than that of the control group. In addition the average number of bowel movements in the experimental group was higher than that of the control group. The effect of aromatherapy lasted 2 weeks after treatment, while the placebo effect lasted 7-10 days after treatment. The finding of this study showed that aromatherapy helps relieve constipation in the elderly.

**Kelly A. Blewitt, (2004)** conducted a study on the effect of aromatherapy on patients with a clinical diagnosis of anxiety. One RCT of aromatherapy in men with speech anxiety found no difference in the anxiety reduction of men treated with aromatherapy and men in a control group. A systematic review of RCTs of aromatherapy delivered through massage found that the intervention resulted in significantly lower anxiety levels than a control intervention in hospitalised cancer, cardiac and intensive care patients. However participants were not specifically selected for anxiety, reduction in anxiety was reported to be transient, and the trials contained methodological flaws. The results showed that there is currently no evidence that aromatherapy is an effective treatment for anxiety disorders. However, it may provide short term relief of anxiety symptoms in medical patients in hospital settings.

**Edge J.,(2003)** conducted a study with eight subjects specifically referred for aromatherapy; each received a standardised aromatherapy massage weekly for 6 weeks. The subjects' levels of anxiety and depression were measured using the Hospital Anxiety and Depression (HAD) Scale prior to the first massage and after the final massage. The subjects' levels of mood, anxiety and relaxation were recorded using a visual analogue before and after each massage and then again 6 weeks after the last massage. Comparison was made between the Hospital Anxiety and Depression Scale results for each client and also the visual analogue scale results for before and after massage and also first massage and 6 weeks postmassage for the sample group. Improvements were shown in six out of eight subjects' Hospital Anxiety and Depression Scale results. Improvements were also shown in all areas when comparing the visual analogue scale results.

**Hadfield N., (2003)** conducted a study on the role of aromatherapy massage in reducing anxiety in patients with malignant brain tumours. The aim is to find out whether aromatherapy massage reduces anxiety in patients with a primary malignant brain tumour attending their first follow-up appointment after radiotherapy. Eight patients were recruited to the study, which comprised three methods of data collection: the measurement of physical parameters; the completion of Hospital Anxiety and Depression Scales (HADS); and semi-structured interviews. The results from Hospital Anxiety and Depression scales did not show any psychological benefit from AM. However, there was a statistically significant reduction in all four physical parameters, which suggests that AM affects the autonomic nervous system, inducing relaxation. This finding was supported by the patients themselves, all of whom stated during interview that they felt 'relaxed' after AM. Since these patients are faced with limited treatment options and a poor prognosis, this intervention appears to be a good way of offering support and improving quality of life.

## CHAPTER III

### RESEARCH METHODOLOGY

This chapter describes the methodology to evaluate the effectiveness of aroma therapy massage in level of anxiety among elderly people. Research methodology refers to the techniques used to structure the study and to gather and analyze information in a systematic fashion (Polit and Hungler). Methodology includes the design, approach, steps and procedures used for gathering and analyzing the data in the research process.

This chapter provides a brief description of the method adopted for the study. It includes Research approach, Research design, Variables, Setting of the study, Population, Sample, Sample size, Sampling technique, Criteria for selection of samples, Development and description of tool, Scoring procedure, Intervention, Content validity, Reliability, interventions, Pilot study, Data collection procedure, Plan for data analysis, and Protection of human rights.

### RESEARCH APPROACH

The research approach used in this study was quantitative research approach.

### RESEARCH DESIGN

Quasi experimental pretest posttest control group design was used for this study. It is diagrammatically represented as,

GROUP	PRE TEST	INTERVENTION	POST TEST
Experimental group	O <sub>1</sub>	X	O <sub>2</sub>
Control group	O <sub>1</sub>	-	O <sub>2</sub>

**Figure 2: Schematic representation of research design**

Key:

O <sub>1</sub>	:	Pretest of experimental group
O <sub>2</sub>	:	Post test of experimental group
X	:	Aroma therapy massage
O <sub>1</sub>	:	Pre test of control group
O <sub>2</sub>	:	Post test of control group

## VARIABLES

### Independent variable:

The independent variable of the study was aroma therapy massage.

### Dependent variable :

The dependent variable of the study was level of anxiety.

## SETTING OF THE STUDY

The study was conducted at UVSS New life old age home and Andhicholi old age home at Tirunelveli. The UVSS New life old age home is situated in Eruvadi which is 120 km away from the Sri. K. Ramachandran Naidu College of nursing. The total population in the UVSS New life old age home was 74 which include 42 females and 32 males.

The Andhicholi old age home is situated in Nanguneri which is 107 km away from the Sri. K. Ramachandran Naidu College of nursing and the total population was 35 which include 24 females and 11 males. In both the homes they are rendering services to the old age people at free of cost.

## **POPULATION**

The population of the study was elderly people who are above the age group of 60 years.

## **SAMPLE**

Both male and female elderly people above 60 years of age in UVSS New life old age home and Andhicholi old age home at Tirunelveli who fulfill the inclusive criteria were the samples.

## **SAMPLE SIZE**

Sample size for the study was 60 elderly people, out of which 30 of them were assigned to the experimental group and 30 of them to the control group.

## **SAMPLING TECHNIQUE**

Non probability purposive sampling technique was used for this study. The study was conducted in UVSS New life old age home and Andhicholi old age homes at Tirunelveli. The total population of the UVSS New life old age home was 74 which include 42 females and 32 males. From the total population the researcher selected 56 elderly people who were above the age group of 60 years. The pre test was given with Spielberger's State-trait anxiety inventory to all the selected elderly people and scoring was done in that 21 of them having mild anxiety, 32 of them having moderate anxiety, 3 of them having severe anxiety and none of them having no anxiety. Based on the scores and inclusion criteria the researcher assigned 30 samples to the experimental group.

In the same way control group samples were selected from Andhicholi old age home. The total population of the Andhicholi old age home was 35 in those 24 females

and 11 males. Among the total population the researcher selected 34 elderly people who were above the age group of 60 years. The pre test was given with Spielberger's State-trait anxiety inventory and scoring was done for all these elderly people in that 12 of them were in the category of mild anxiety and 22 of them were under the category of moderate anxiety. Based on the pre test scores and inclusive criteria the researcher assigned 30 samples to the control group.

## **CRITERIA FOR SAMPLE SELECTION**

### ***Inclusive criteria:***

- \* Elderly people above 60 yrs of age.
- \* Those who were having mild and moderate level of anxiety.
- \* Those who were present during the period of data collection.
- \* Both male and female elderly people.
- \* Those who were willing to participate.

### ***Exclusive criteria:***

- \* Elderly people who are allergic to lavender oil.
- \* Those who are on treatment for anxiety associated disorders.
- \* Those who are physically challenged.
- \* Those with any systemic illness.
- \* Those with any chronic skin infection.
- \* Those who are already on aroma therapy massage.



## **DEVELOPMENT AND DESCRIPTION OF TOOL**

The tool consists of 2 sections,

### **SECTION: A**

Section-A consists of demographic variables. It includes age, sex, marital status, education, occupation, income, religion, number of children, mode of admission and duration of stay at old age home.

### **SECTION: B**

It consists of Spielberger's State-trait anxiety inventory. This is a self evaluation questionnaire developed by Charles. D. Spielberger in 1968. It is a standardized tool consisting of 40 items with 20 state and 20 trait anxiety statements. No time limit but the person is instructed to do as quickly as possible.

## **SCORING PROCEDURE**

Section –B consists of Spielberger's State-trait anxiety inventory. It consists of 40 items with a four point scale. Total score of the scale is 160. Score is interpreted as,

### **State anxiety [20 items]**

Items in the state anxiety scale will be scored as follows,

Direct scoring items : 3,4,6,7,9,12,13,14,17&18.

Reverse scoring items : 1, 2, 5, 8, 10, 11, 15, 16, 19 & 20.

### **Trait anxiety [20 items]**

Items in the trait anxiety scale will be scored as follows,

Direct scoring items : 22, 24, 25, 28, 29, 31, 32, 35, 37 & 40.

Reverse scoring items : 21, 23, 26, 27, 30, 33, 34, 36, 38 & 39.

The level of anxiety is categorized as,

DESCRIPTION	SCORE
No anxiety	40
Mild level of anxiety	41- 80
Moderate level of anxiety	81-120
Severe level of anxiety	121-160

## **COTENT VALIDITY**

The content validity of the tool was obtained from one medical expert and 3 nursing experts, in the field of Psychiatry. The content validity of the tool was established on the basis of opinion given by the experts.

## **RELIABILITY OF THE TOOL**

The researcher tested the reliability of tool by test retest method using Carl Pearson`s correlation coefficient formula. The reliability score was  $r=0.9$  which showed a highly positive correlation of the tool. Hence the reliability of the tool obtained was found to be feasible to conduct the study.

## **AROMATHERAPY MASSAGE**

Aromatherapy is a complementary therapy that is based on the use of concentrated plant essences. Aromatherapy is used to reduce the symptoms of a range of conditions and aims to improve both physical and emotional wellbeing.

Aromatherapy massage works as,

When inhaling essential oils, this stimulates olfactory system – the part of brain that is connected to smell. A signal is transferred to brain's limbic system that controls emotions and stores and retrieves learned memories. This triggers chemicals to be released. These are thought to have different effects, causing to feel relaxed or stimulated. In addition, the gentle massage often used to apply oils to skin is likely to have a relaxing effect.

## **INTERVENTION**

### **Procedure for doing aroma therapy:**

#### **General instructions**

- ▲ Explain the elderly people not to be in full stomach.
- ▲ Advice those to have a rest of 5 minutes before massage.
- ▲ Explain them about the allergic reaction.
- ▲ Explain them that not to open eyes because if it enters into the eyes it will cause irritation.

#### **Steps**

- ▲ Explain the aroma massage therapy to the patient.
- ▲ Explain the deep breathing exercise to the group. Ask the subjects to keep the hands on their abdomen. Then slowly inhale through the nose, hold the breath for seconds and then allow the air to blow through the mouth. Repeat it for 5 timesto relax their body and mind.
- ▲ Ask them to be in lying down position.
- ▲ Dilute the concentrated lavender oil 6drops with 30ml of coconut oil.
- ▲ Check for allergy to lavender oil by applying it in palm, if it turns red or having burning sensation avoid massaging with the lavender oil.

- ▲ After this the researcher applies lavender oil massage from feet, lower legs, hands, arms, shoulder, neck and forehead. The massage will be given for 30min twice a week for the total of 8 times.
- ▲ The massage given by Efflurage method to feet, hands, forehead and Petrissage(kneading and friction) method of massage given to neck, shoulder, arms and lower legs.
- ▲ Finally the researcher closes the session after obtaining feedback from the elderly people.

## **PILOT STUDY**

It is the rehearsal of the main study. The researcher conducted pilot study after obtaining formal permission from Principal and Research and ethical committee of Sri. K.Ramachandran Naidu College of Nursing. The pilot study was conducted at Shalom old age home, at Tirunelveli. A formal permission was obtained from Director of Shalom old age home.

The tool used for the main study will be validated by the pilot study. The number of sample was 6 to those who are fulfilling the inclusive criteria. The study was conducted from 10-07-2013 to 31-07-2013 for 22 days.

Rapport was established with the elderly people and a brief introduction about the study was given. Oral and written consent was obtained from each elderly person. Data pertaining to demographic variables was collected by interview method; the total population of the Shalom old age home was 25 which include 16 females and 9 Males. The investigator selected 11 elderly people above the age group of 60 years. And pre test was done by Spielberger's State-trait anxiety inventory. Based on the scores and inclusion criteria six samples were selected. Out of six samples 3

were allotted for experimental group and 3 were allotted for control group. Aromatherapy massage was given to the 3 samples in the experimental group for 30 minutes, and no intervention was given to the 3 samples in control group. After 8 sessions posttest level of anxiety was assessed by Spielberger's State-trait anxiety inventory for both experimental and control group and scored for both the groups and result of the study was assessed for its effectiveness.

The pilot study revealed that there was a highly significant difference between the post test level of anxiety among the experimental and control group of people at  $P < 0.05$  level.

The result of the pilot study showed that the study was feasible and practicable to conduct the main study. There was no modification made in the tool after the pilot study.

## **PROCEDURE FOR DATA COLLECTION**

The researcher got formal permission from the Principal, Research and Ethical committee of Sri.K. Ramachandran Naidu College of the nursing and the director and secretary of the UVSS New life old age home and Andhicholi old age home at Tirunelveli. Data collection was done in UVSS New life old age home and Andhicholi old age home from 01-08-2013 to 31-08-2013 from 7.00 am - 8.30 am, 10.00 am – 12 noon and 4 pm – 5.30 pm.

The investigator introduced herself to the old age people and established rapport with them during the data collection period. The participants were assured that no physical or emotional harm would be done to them during the course of the study. The investigator obtained an informed consent from each elderly people.

The total population of the UVSS New life old age home was 74 which include 42 females and 32 males. From the total population the researcher selected 56 elderly people who were above the age group of 60 years. The pre test was given with Speil Berger`s State-trait anxiety inventory to all the selected elderly people and scoring was done in that 21 of them having mild anxiety, 32 of them having moderate anxiety, 3 of them having severe anxiety and none of them having no anxiety. Based on the scores and inclusion criteria the researcher assigned 30 samples to the experimental group.

In the same way control group samples were selected from Andhicholi old age home. The total population of the Andhicholi old age home was 35. Among the total population the researcher selected 34 elderly people who were above the age group of 60 years. The pre test was given with Speil Berger`s State-trait anxiety inventory and scoring was done for all these elderly people in that 12 were under the category of mild anxiety and 22 were under the category of moderate anxiety. Based on the scores and inclusive criteria the researcher assigned 30 samples to the control group.

Aroma therapy massage was given only to the experimental group twice a week for about 8 times. The experimental group was subdivided into three groups and aromatherapy massage was given to the three groups as per schedule below,

<b>GROUP</b>	<b>DAYS</b>
1 <sup>st</sup> group	Monday and Thursday
2 <sup>nd</sup> group	Tuesday and Friday
3 <sup>rd</sup> group	Wednesday and Saturday

The post test was conducted to both the experimental and control group by using Spielberger's state trait anxiety inventory. After assessment data analysis and interpretation was done.

## **PLAN FOR DATA ANALYSIS**

Both the descriptive statistics and inferential statistics were used to analyze the data.

### **Descriptive statistics:**

- \* Frequency and percentage distribution was used to analyze the demographic variables
- \* Frequency and percentage distribution was used to assess the level of anxiety among elderly people.
- \* Mean and standard was used to assess the level of anxiety among elderly people.

### **Inferential statistics:**

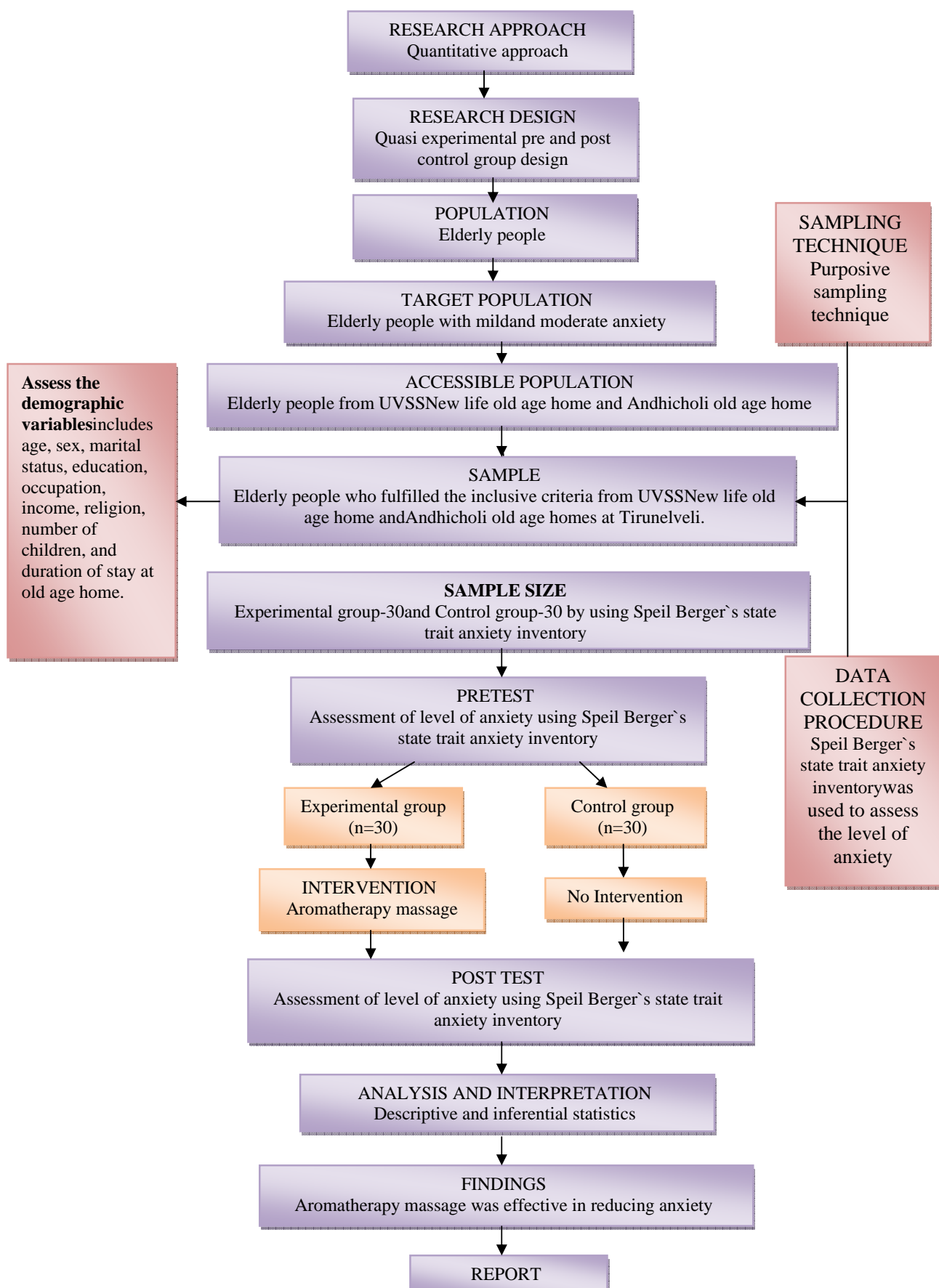
- \* Unpaired 't' test was used to compare the post test level of anxiety between experimental and control group of elderly people.
- \* Paired 't' test was used to compare the pre and post test level of anxiety between experimental group and control group of elderly people.
- \* Chi-square test was used to find out the association of the post test level of anxiety of elderly people with their selected demographic variables of experimental and control group.

## **PROTECTION OF HUMAN RIGHTS**

Research was approved by the dissertation committee prior to the pilot study and the main study. Formal permission was obtained from the Principal, Research and ethical committee of Sri. K. Ramachandran Naidu College of nursing Sankarankovil.

Informed consent from each elderly was obtained before starting the data collection. Assurance was given to the patients that confidentiality was maintained throughout the data collection period the study subject was safe and no adverse effects because of intervention done by the researcher.





**Figure 3: Schematic representation of research methodology**

## **CHAPTER-IV**

### **DATA ANALYSIS AND INTERPRETATION**

This chapter deals with the analysis and interpretation of data related to assessing the effectiveness of aromatherapy massage on the level of anxiety among the elderly people residing in selected old age homes at Tirunelveli.

Descriptive and inferential statistics were used for analyzing the data on the basis of the objectives of the study. The data has been tabulated and organized as follows.

#### **ORGANIZATION OF DATA**

##### **Section A: Description of demographic variables of the elderly people in experimental and control group**

- Frequency and percentage distribution of demographic variables of the elderly people with respect to age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.

##### **Section B: Assessment of the level of anxiety in experimental and control group of elderly people**

- Frequency and percentage distribution of pre test level of anxiety in experimental and control group of elderly people.
- Frequency and percentage distribution of post test level of anxiety in experimental group and control group of elderly people.

**Section C: Comparison of the effects of aromatherapy massage on the level of anxiety among the experimental and control group of elderly people**

- Mean and standard deviation of the pre test level of anxiety among elderly people in experimental group and control group.
- Mean and standard deviation of the post test level of anxiety among elderly people in experimental group and control group.
- Mean and standard deviation of pre and post test level of anxiety among elderly in experimental group.

**Section D: Association of the post test level of anxiety among the elderly people in experimental group and control group with their selected demographic variables**

- Association of the post test level of anxiety among elderly people in experimental group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.
- Association of the post test level of anxiety among elderly people in control group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home

**SECTION A: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF THE ELDERLY PEOPLE IN EXPERIMENTAL AND CONTROL GROUP.**

**Table 1:Frequency and percentage distribution of demographic variables of the elderly people with respect to age, sex, education, religion,occupation, monthly income, marital status,number of children, mode of admission and duration of stay at old age home in experimental and control group.**

(N = 60)

Sl. No	DEMOGRAPHIC VARIABLES	EXPERIMENTAL GROUP		CONTROL GROUP	
		F	%	F	%
1.	<b>Age</b>				
	a) 61- 70 yrs	15	50	16	53.34
	b) 71-80 yrs	10	33.33	10	33.33
	c) 81- 90 yrs	5	16.67	3	10
	d) Above 90	-	-	1	3.33
2.	<b>Sex</b>				
	a) Male	17	56.67	11	36.67
	b) Female	13	43.33	19	63.33
3.	<b>Educational Status</b>				
	a) Illiterate	8	26.67	12	40
	b) Primary education	9	30	15	50
	c) High school education	11	36.67	3	10
	d) Higher secondary	1	3.33	-	-
	e) Diploma / graduate	1	3.33	-	-
	f) Post graduate	-	-	-	-
4.	<b>Religion</b>				
	a) Hindu	15	50	20	66.67
	b) Muslim	2	6.67	-	-
	c) Christian	13	43.33	10	33.33
5.	<b>Occupation</b>				
	a) Unemployed	9	30	11	36.67
	b) Coolie	11	36.67	18	60
	c) Private employee	10	33.33	1	3.33
	d) Government employee	-	-	-	-

6.	<b>Monthly income</b>				
	a) Nil	9	30	11	36.67
	b) Below Rs.1000	8	26.67	9	30
	c) Rs.1001 – Rs.5000	13	43.33	10	33.33
	d) Above Rs.5000	-	-	-	-
7.	<b>Marital Status</b>				
	a) Unmarried	6	20	11	36.67
	b) Married	4	13.33	3	10
	c) Widow/ Widower	17	56.67	12	40
	d) Divorced	-	-	3	10
	e) Separated	3	10	1	3.33
8.	<b>Number of children</b>				
	a) No children	13	43.34	11	36.67
	b) One	3	10	3	10
	c) Two	4	13.33	6	20
	d) Three and above	10	33.33	10	33.33
9.	<b>Mode of admission</b>				
	a) Voluntary Admission	1	3.33	4	13.33
	b) Admission by relatives/ friends	25	83.34	26	86.67
	c) Admission by police	-	-	-	-
	d) Admission by NGO`s	4	13.33	-	-
10.	<b>Duration of stay at the old age home</b>				
	a) Below 1 year	10	33.33	6	20
	b) 1- 3 years	11	36.67	17	56.67
	c) 3-5 years	1	3.33	2	6.67
	d) Above 5 years	8	26.67	5	16.66

Table 1 describes the frequency and percentage distribution of demographic variables of elderly people with respect to age, sex, religion, education, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home in experimental and control group.

With regard to the age in experimental group, out of 30 samples 15 (50%) of the elderly people belongs to the age between 61 to 70 years, 10 (33.33%) of the elderly people were between the age group of 71 to 80 years, 5(16.67 %) of the elderly people were between the age group of 81 to 90 years and none of them in the age group of above 90 years. Whereas in control group out of 30 samples 16 (53.34%) of the elderly people belongs to the age between 61 to 70 years,10(33.33%)of the elderly people were between the age group of 71 to 80 years, 3 (10%)of the elderly people were between the age group of 81 to 90 yearsand the remaining 1 (3.33%)of the elderly peoplewere in the age group of above 90 years.

With respect to the sex in the experimental group out of 30 samples 17 (56.67%) of them were males and 13 (43.33%) of them were females. Whereas in the control group out of 30 samples 11 (36.67%) of them were males and 19 (63.633%) of them were females.

With respect to the educational status in the experimental group out of 30 samples 8 (26.67%)of them are illiterates, 9 (30%) of them had primary education, 11 (36.67%) of them had high school education, 1 (3.33%) of them had higher secondary education, 1(3.33%) of them had diploma/ graduate education and none of them were post graduates. Whereas in the control group out of 30 samples 12 (40%) of them are illiterates, 15 (50%) of them hadprimary education, 3 (10%) of them had high school education and none of them were in the category ofhigher secondary education, diploma/ graduate and post graduate education.

With respect to religion in the experimental group, out of 30 samples 15 (50%) of them were Hindus, 2 (6.67%) of them were Muslims. and 13 (43.33%)ofthem were Christians. In control group out of 30 samples 20 (66.67%) of

them were Hindus, 10 (33.33%) of them were Christians and no one belongs to the category of Muslim.

With respect to occupation in the experimental group, out of 30 samples 9 (30%) of them were unemployed, 11 (36.67%) of them were coolie workers, 10 (33.33%) of them were private employees and none of them were government employees. Whereas in the control group out of 30 samples 11 (36.67%) of them were unemployed, 18 (60%) of them were coolie workers 1 (3.33%) of them was private employee and none of them were government employees.

With regard to monthly income in the experimental group, out of 30 samples 9 (30%) of them were having no income, 8 (26.67%) of them were having the income of below Rs. 1000, 13 (43.33%) of them were having the income between Rs. 1001 to Rs. 5000 and none of them having the income of above Rs. 5000. Whereas in the control group out of 30 samples 11 (36.67%) of them were having no income, 9 (30%) of them were having the income of below Rs. 1000, 10 (33.33%) of them were having the income between Rs. 1001 to Rs. 5000 and none of them having the income of above Rs. 5000.

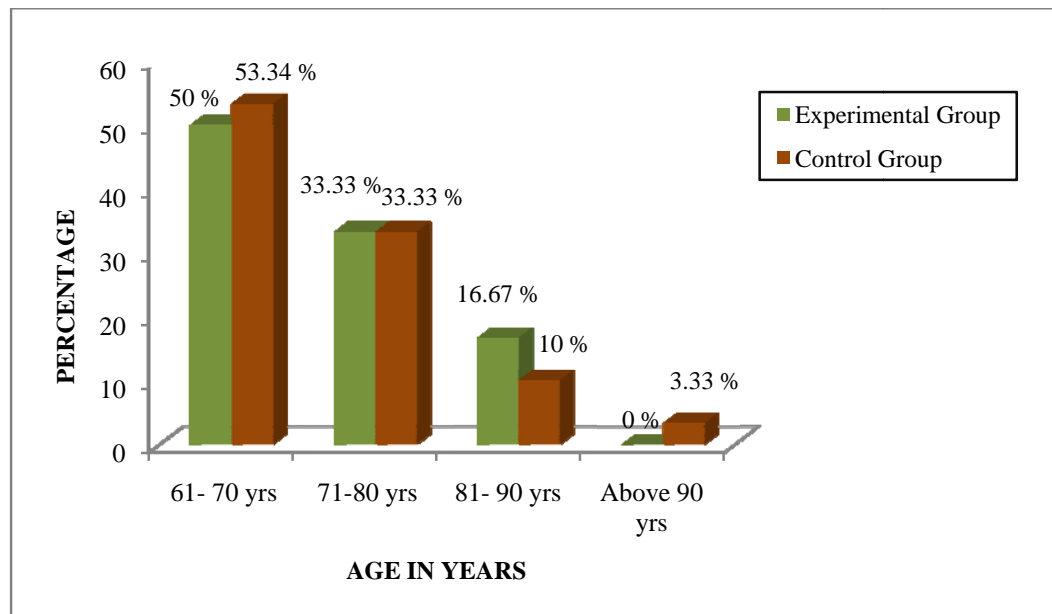
With respect to marital status in the experimental group out of 30 samples 6 (20%) of them were unmarried, 4 (13.33%) of them were married, 17 (56.67%) of them were widow/widower, 3 (10%) of them were separated and none of them were divorced. Whereas in the control group out of 30 samples 11 (36.67%) of them were unmarried, 3 (10%) of them were married, 12 (40%) of them were widow/widower, 3 (10%) of them were divorced and 1 (3.33%) of them was separated.

With respect to the number of children in the experimental group out of 30 samples 13 (43.34%) of them had no children, 3 (10%) of them had one child, 4(13.33%) of them had two children and 10 (33.33%) of them had three and above. Whereas in the control group out of 30 samples 11(36.67%) of them had no children, 3 (10%) of them had one child, 6 (20%) of them had two children and 10 (33.33%) of them had three children and above.

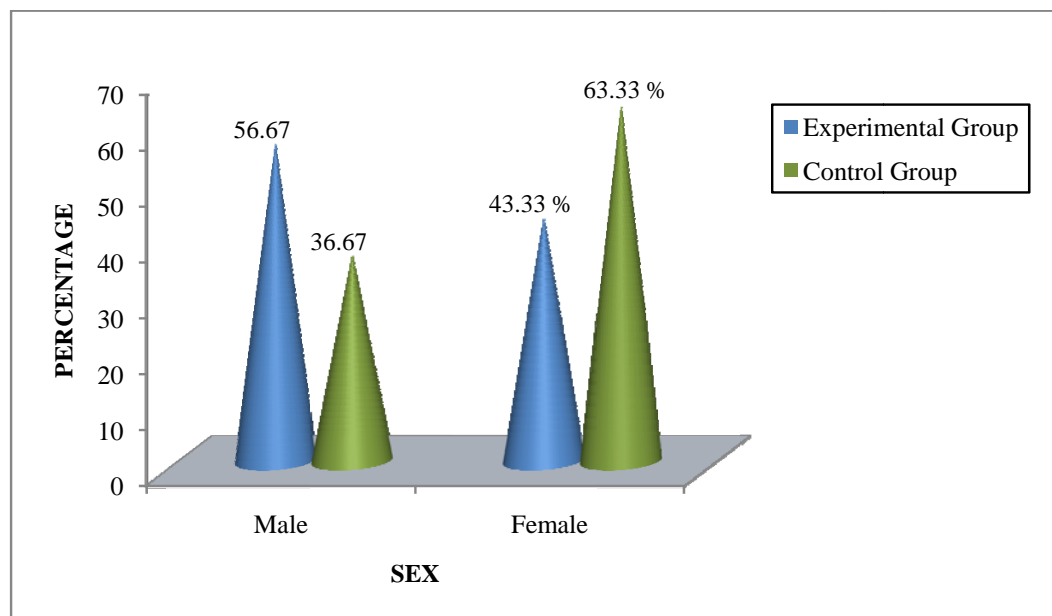
With respect to the mode of admission in the experimental group out of 30 samples 1 (3.33%) of them was voluntarily admitted, 25 (83.34%) of them were admitted by relatives/ friends, 4(13.33%) of them had admitted by NGO`s and none of them had admittedby police. Whereas in the control group out of 30 samples 4 (13.33%) of them were voluntarily admitted, 26 (86.67%) of them wereadmitted by relatives/ friendsand none of them were admittedby police and NGO`s.

With regard to duration of stayat old age home in the experimental group out of 30 samples 10 (33.33%) of them were stayed below 1 year, 11 (36.67%) of them were stayed 1-3 years, 1 (3.33%) of them was stayed 3-5 years and 8 (26.67%) of them were stayed above 5 years. Whereas in the control group out of 30 samples 6 (20%) of them were stayed below 1 year, 17 (56.67%) of them were stayed 1-3 years, 2 (6.67%) of them were stayed 3-5 years and 5 (16.66%) of them were stayed above 5 years.

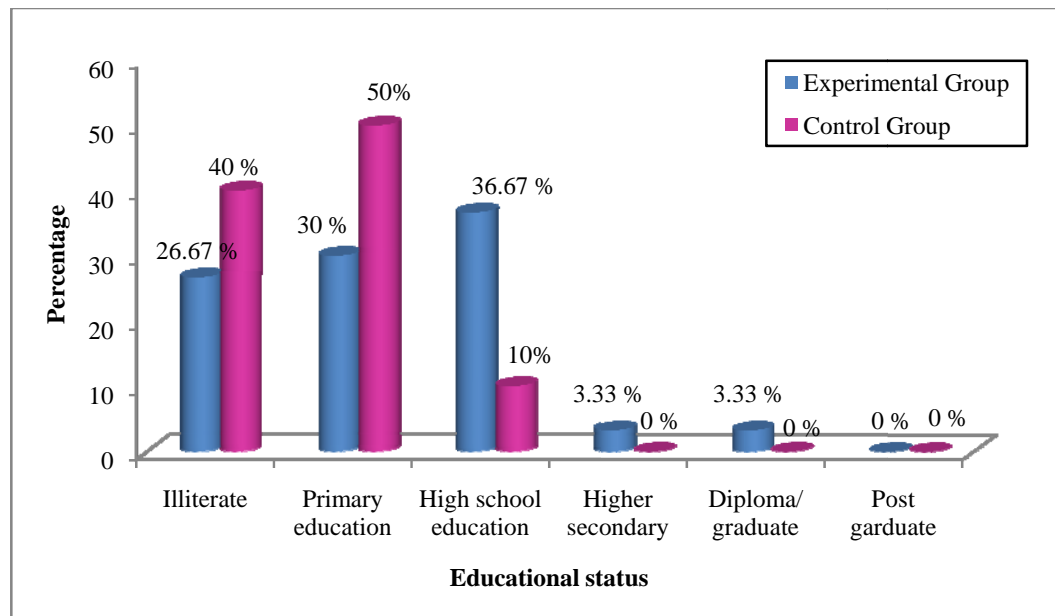




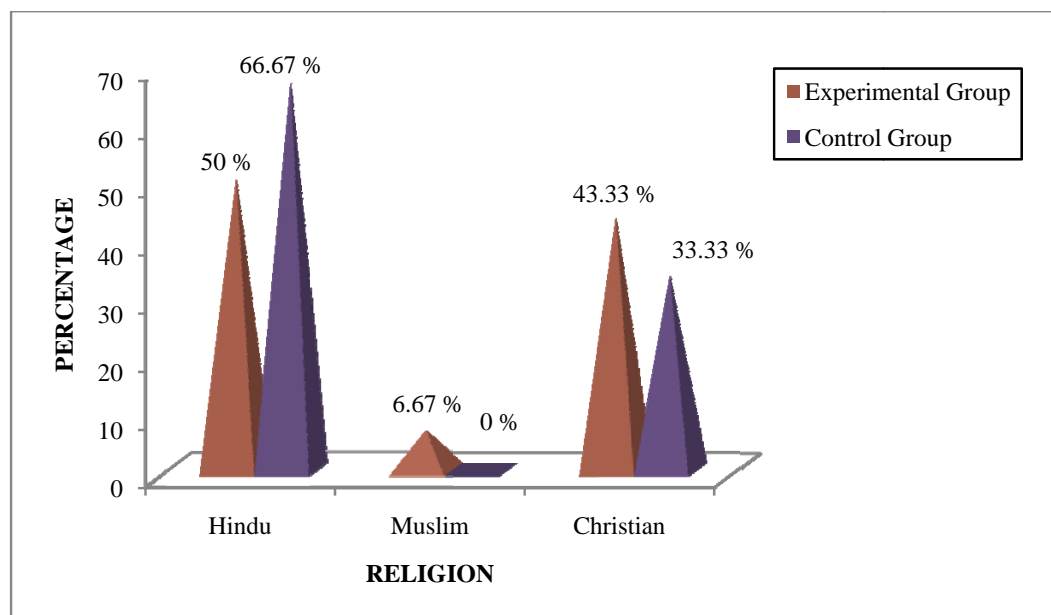
**Figure 4:Percentage distribution of age in experimental and control group**



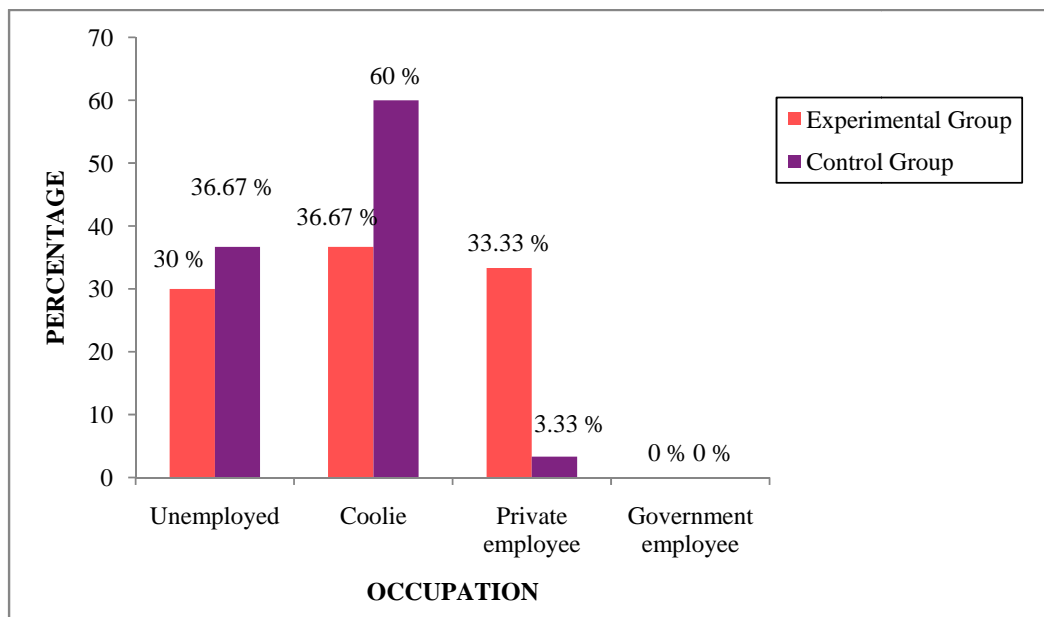
**Figure 5:Percentage distribution of sex in experimental and control group**



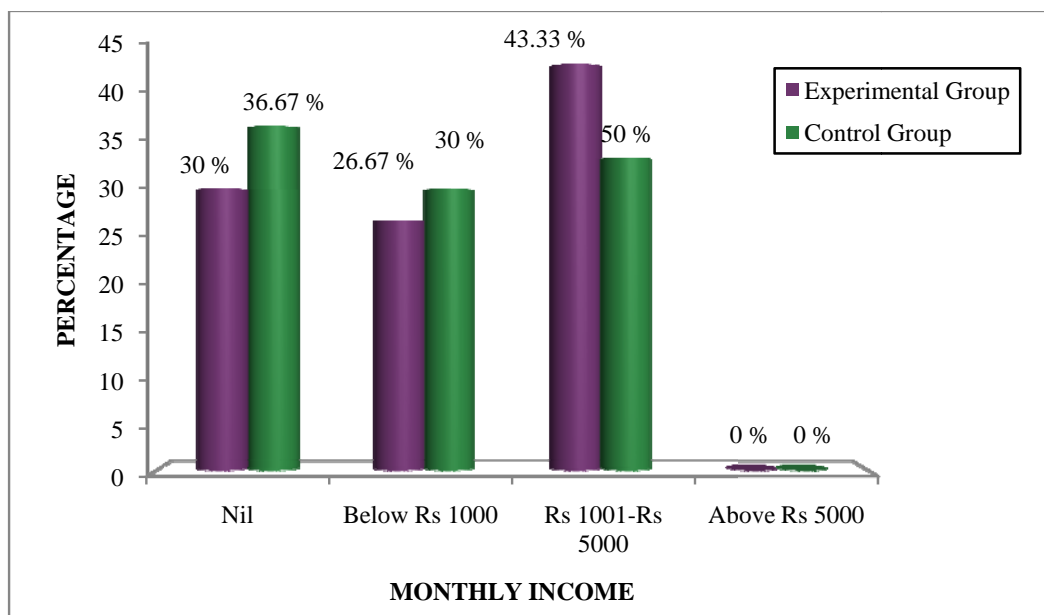
**Figure 6: Percentage distribution of educational status in experimental and control group**



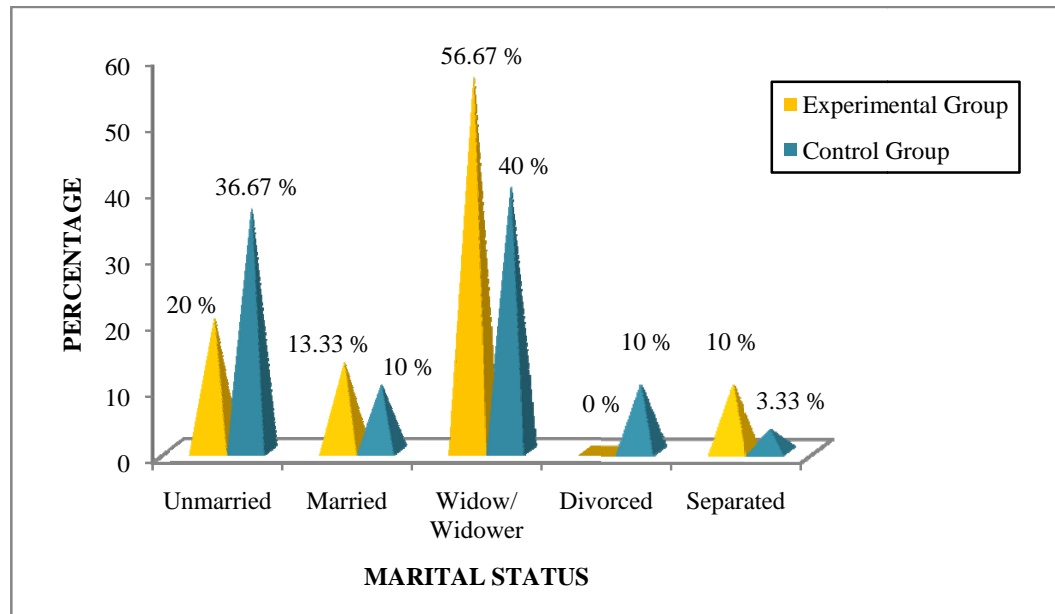
**Figure 7: Percentage distribution of religion in experimental and control group**



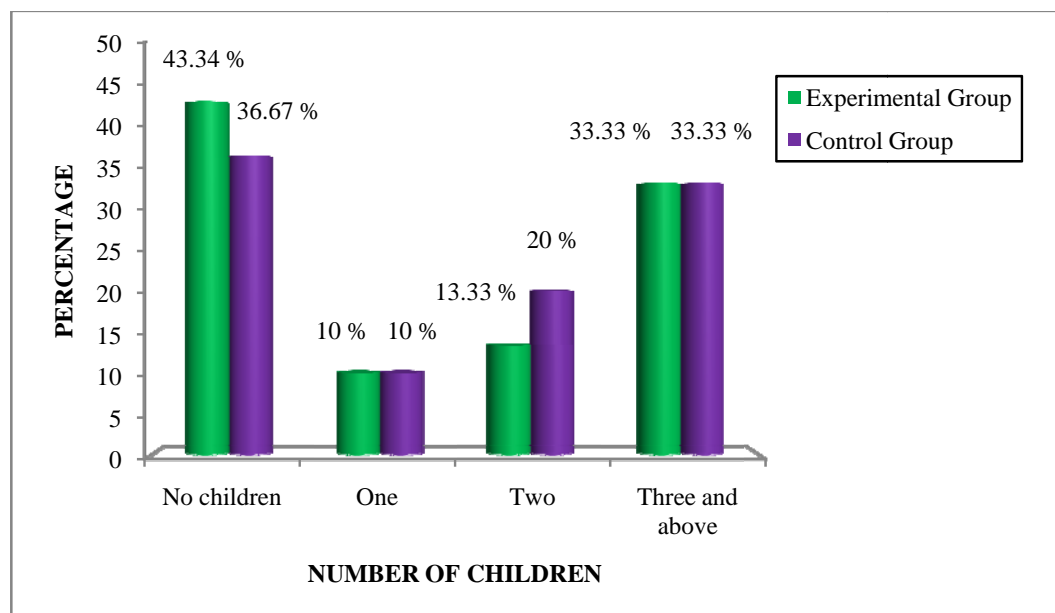
**Figure 8: Percentage distribution of occupation in experimental and control group**



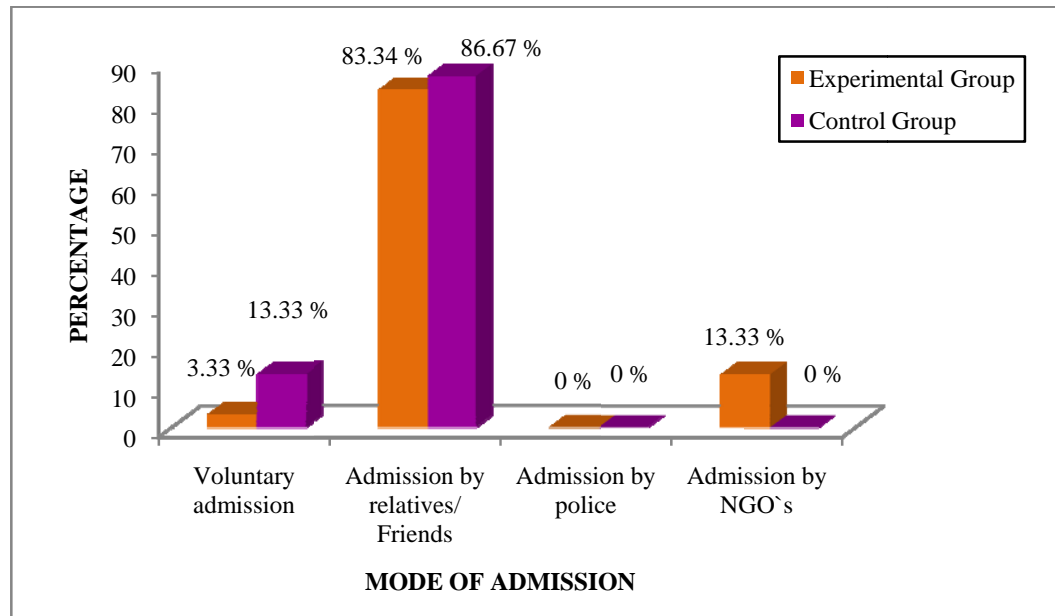
**Figure 9: Percentage distribution of monthly income in experimental and control group**



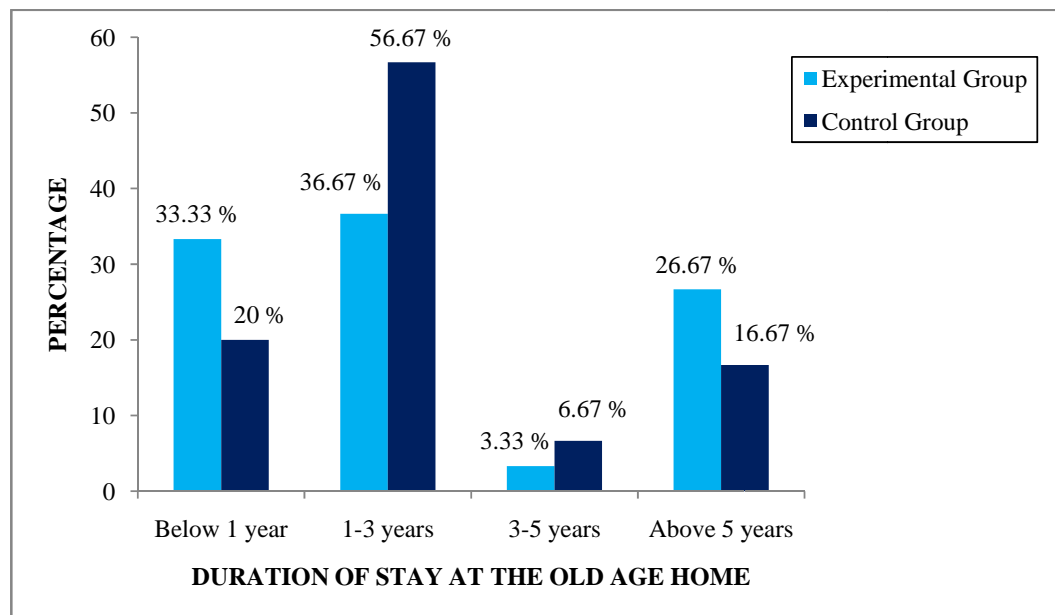
**Figure 10: Percentage distribution of marital status in experimental and control group**



**Figure 11: Percentage distribution of number of children in experimental and control group**



**Figure 12: Percentage distribution of mode of admission in experimental and control group**



**Figure 13: Percentage distribution of duration of stay at the old age home in experimental and control group**

**SECTIONB: ASSESSMENT OF THE LEVEL OF ANXIETY IN EXPERIMENTAL GROUP AND CONTROL GROUP OF ELDERLY PEOPLE.**

**Table-2: Frequency and percentage distribution of pre test level of anxiety in experimental and control group of elderly people.**

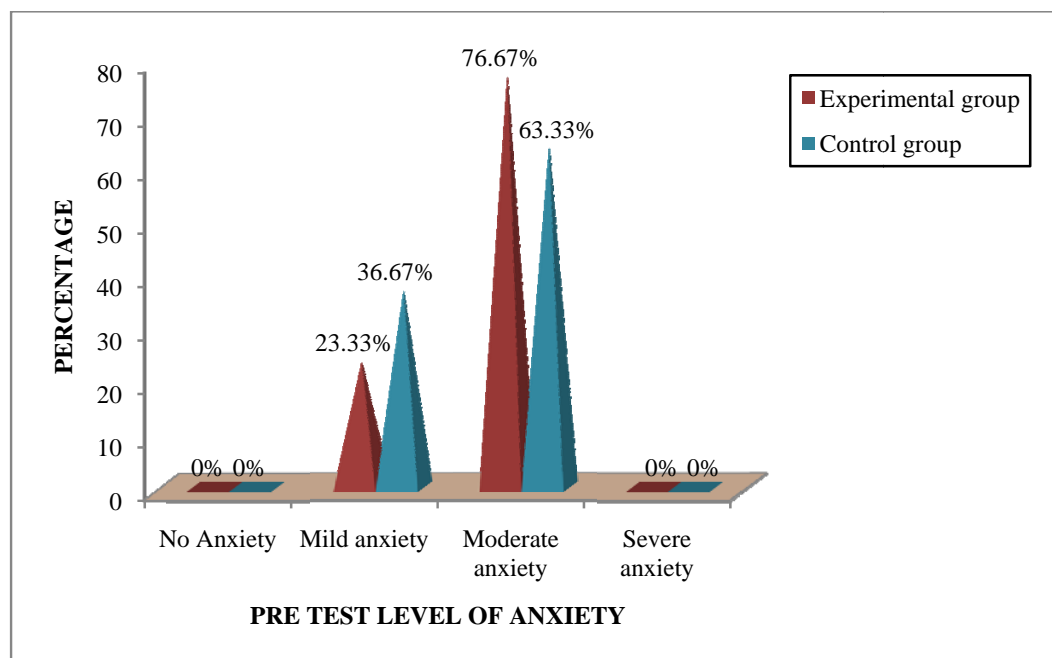
(N = 60)

S. No	Group	Pre test level of anxiety							
		No anxiety		Mild anxiety		Moderate anxiety		Severe anxiety	
		F	%	F	%	F	%	F	%
1.	Experimental Group	-	-	7	23.33	23	76.67	-	-
2.	Control Group	-	-	11	36.67	19	63.33	-	-

Table 2 reveals the frequency and percentage distribution of pre test level of anxiety in experimental group and control group of elderly people.

With regard to the pre test level of anxiety in experimental group, out of 30 samples, 7 (23.33%) of them had mild anxiety, 23 (76.67%) of them had moderate anxiety and none of them had severe anxiety and no anxiety.

With regard to the pre test level of anxiety in control group, out of 30 samples, 11 (36.67%) of them had mild anxiety, 19(63.33%) of them had moderate anxiety and none of them had severe anxiety and no anxiety.



**Figure 14: Percentage distribution of pre test level of anxiety in experimental and control group**

**Table-3: Frequency and percentage distribution of post test level of anxiety in experimental group and control group of elderly people.**

**(N =60)**

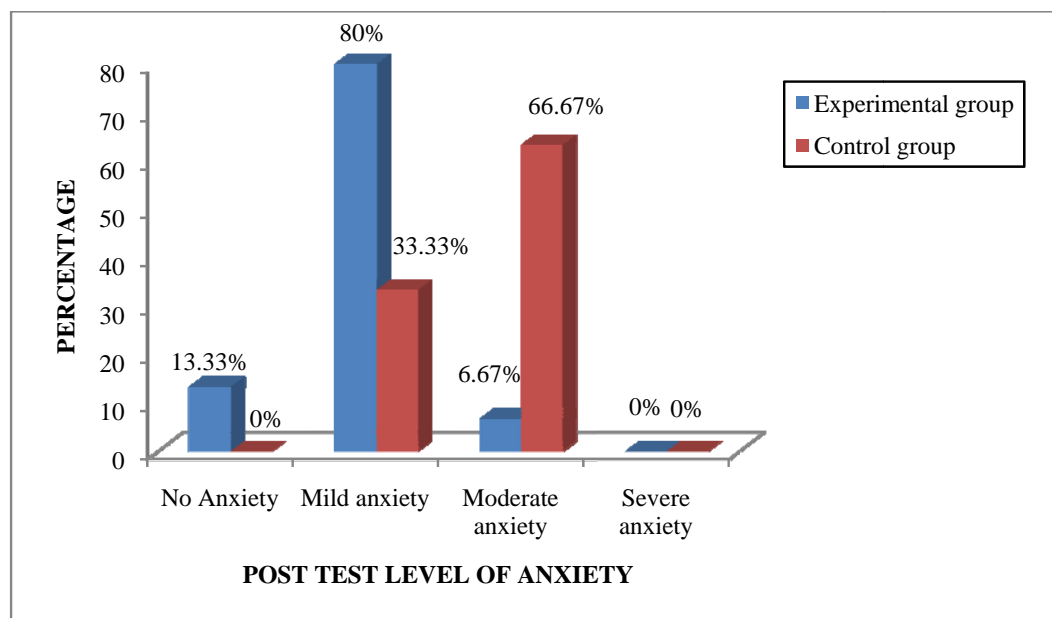
S. No	Group	Post test level of anxiety							
		No anxiety		Mild anxiety		Moderate anxiety		Severe anxiety	
		F	%	F	%	F	%	F	%
1.	Experimental group	4	13.33	24	80	2	6.67	-	-
2.	Control group	-	-	10	33.33	20	66.67	-	-

Table 3 reveals the frequency and percentage distribution of post test level of anxiety in experimental group and control group of elderly people.

With regard to the post test level of anxiety in experimental group, out of 30 samples, 4 (13.33%) of them had no anxiety, 24 (80%) of them had mild anxiety, 2 (6.67%) of them had moderate anxiety and none of them had severe anxiety.

With regard to the post test level of anxiety in control group, out of 30 samples, 10 (33.33%) of them had mild anxiety, 20 (66.67%) of them had moderate anxiety and none of them had severe anxiety and no anxiety.





**Figure 15: Percentage distribution of post test level of anxiety in experimental and control group**

**SECTION-C: COMPARISON OF THE EFFECTS OF AROMATHERAPY MASSAGE ON LEVEL OF ANXIETY AMONG THE EXPERIMENTAL AND THE CONTROL GROUP OF ELDERLY PEOPLE.**

**Table-4: Mean and standard deviation of the pre test level of anxiety among elderly people in experimental group and control group.**

(N= 60)

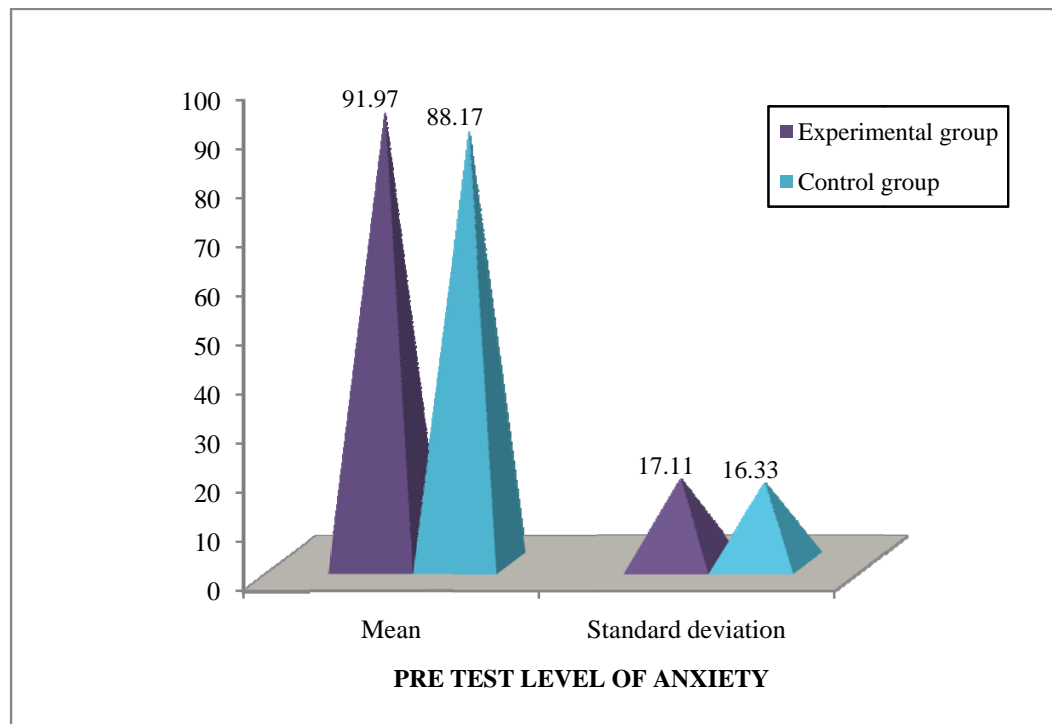
S. No	Group	Pre test		't' test value
		Mean	Standard Deviation	
1.	Experimental group	91.97	17.11	0.80
2.	Control group	88.17	16.33	NS

**NS–Non significant**

Table 4 shows the mean and standard deviation of the pre test level of anxiety among elderly people experimental group and control group.

In experimental group, the pre test mean value was 91.97 with the Standard deviation 17.11. In control group, the pre test mean value was 88.17 with the Standard deviation 16.33. The calculated 't' value was 0.80.

The above findings showed that there was no significant difference in the mean pre test level of anxiety among the elderly people in experimental group and control group.



**Figure 16: Mean and standard deviation of the pre test level of anxiety among elderly people in experimental group and control group**

**Table-5: Mean and standard deviation of the post test level of anxiety among elderly people in experimental group and control group.**

**(N=60)**

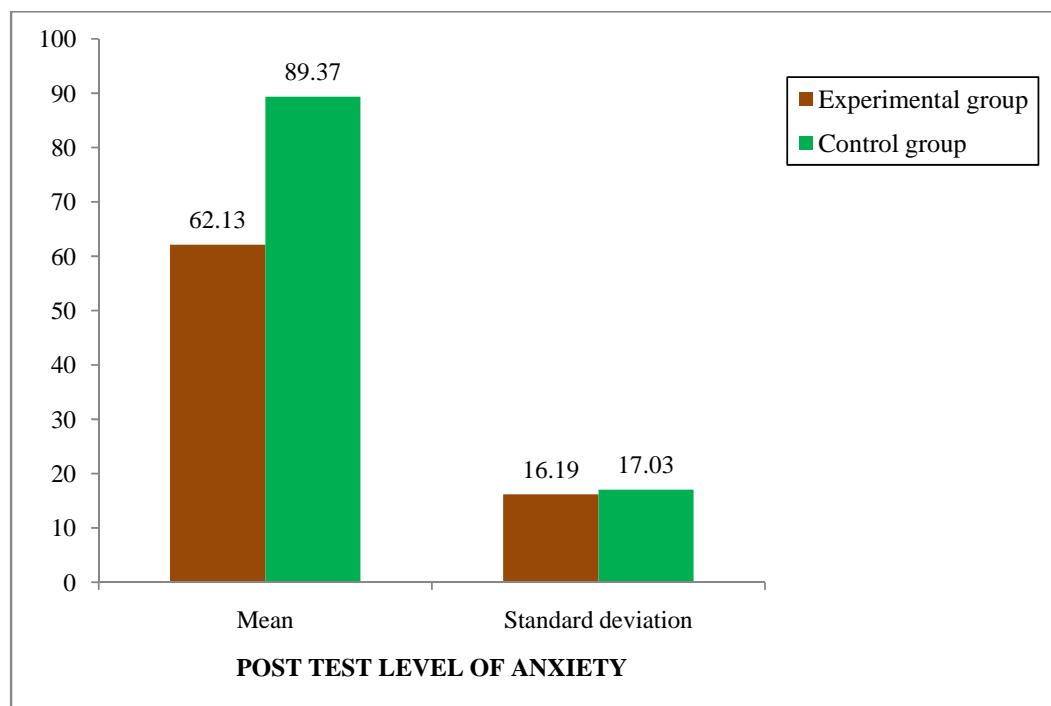
<b>S. No</b>	<b>Group</b>	<b>Post test</b>		<b>‘t’ test value</b>
		<b>Mean</b>	<b>Standard Deviation</b>	
1.	Experimental group	62.13	16.19	<b>S</b>
2.	Control group	89.37	17.03	

**S-Significant**

Table 5 shows the mean and standard deviation of the post test level of anxiety among elderly people in experimental group and control group.

In experimental group the post test mean value was 62.13 with Standard deviation of 16.19. In control group the post test mean value was 89.37 with Standard deviation of 17.03. The calculated ‘t’ test value was 6.34.

The above findings showed that the mean post test level of anxiety in experimental group was lower than the mean post test level of anxiety in control group of the elderly people.



**Figure 17: Mean and standard deviation of the post test level of anxiety among elderly people in experimental group and control group**

**Table-6: Mean and standard deviation of pre and post test level of anxiety among elderly people in experimental group.**

**(N=30)**

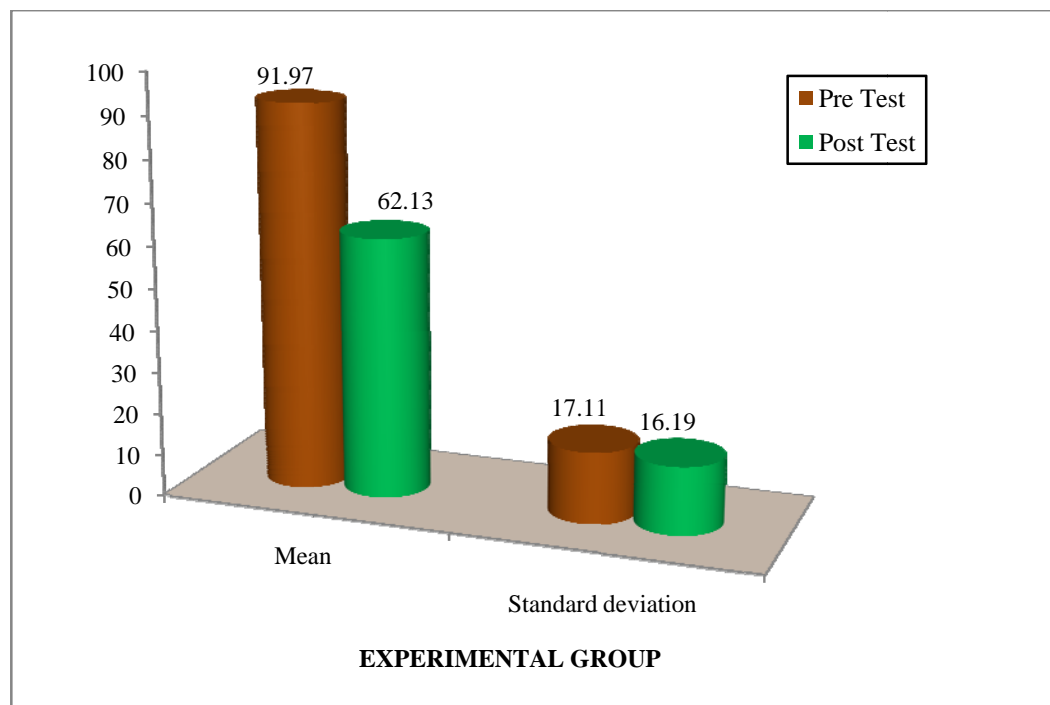
<b>Group</b>	<b>Pre test</b>		<b>Post test</b>		<b>Mean</b>	<b>‘t’ test value</b>
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Difference</b>	
Experimental group	91.97	17.11	62.13	16.19	29.84	6.93 S

**S-Significant**

Table- 6 reveals the mean and standard deviation of pre and post test level of anxiety among elderly people in experimental group.

In experimental group, it showed the mean value of 91.97 with standard deviation 17.11 in pre test and a mean value of 62.13 with standard deviation 16.19 in post test. The mean difference was 29.84. The calculated ‘t’ test value was 6.93.

The findings showed that the mean post test level of anxiety among the elderly people in experimental group was lower than the mean pre test level of anxiety.



**Figure 18: Mean and standard deviation of pre and post test level of anxiety among elderly people in experimental group**





<b>4.</b>	<b>Religion</b>									
	a) Hindu	2	6.67	12	40	1	3.33	-	-	0.577
	b) Muslim	-	-	2	6.67	0	0	-	-	df=4
	c) Christian	2	6.67	10	33.33	1	3.33	-	-	<b>NS</b>
<b>5.</b>	<b>Occupation</b>									
	a) Unemployed	2	6.67	6	20	1	3.33	-	-	3.864
	b) Coolie	2	6.67	8	26.67	1	3.33	-	-	df=6
	c) Private employee	-	-	10	33.33	-	-	-	-	<b>NS</b>
	d) Government employee	-	-	-	-	-	-	-	-	
<b>6.</b>	<b>Monthly income</b>									
	a) Nil	2	6.67	6	20	1	3.33	-	-	4.373
	b) Below Rs.1000	2	6.67	6	20	-	-	-	-	df=6
	c) Rs.1001 – Rs.5000	-	-	12	40	1	3.33	-	-	<b>NS</b>
	d) Above Rs.5000	-	-	-	-	-	-	-	-	
<b>7.</b>	<b>Marital Status</b>									
	a) Unmarried	-	-	5	16.67	1	3.33	-	-	3.426
	b) Married	1	3.34	3	10	-	-	-	-	df=8
	c) Widow/ Widower	3	10	13	43.33	1	3.33	-	-	<b>NS</b>
	d) Divorced	-	-	-	-	-	-	-	-	
	e) Separated	-	-	3	10	-	-	-	-	
<b>8.</b>	<b>Number of children</b>									
	a) No children	2	6.67	10	33.33	1	3.33	-	-	2.244
	b) One	1	3.33	2	6.67	-	-	-	-	df=6
	c) Two	-	-	4	13.33	-	-	-	-	<b>NS</b>
	d) Three and above	1	3.34	8	26.67	1	3.33	-	-	

9.	<b>Mode of admission</b>									
	a) Voluntary Admission	-	-	1	3.33	-	-	-	-	0.362 df=6
	b) Admission by relatives/ friends	3	10	20	66.67	2	6.67	-	-	<b>NS</b>
	c) Admission by police	-	-	-	-	-	-	-	-	
	d) Admission by NGO`s	1	3.33	3	10	-	-	-	-	
10.	<b>Duration of stay at old age home</b>									
	a) Below 1 year	2	6.67	6	20	2	6.67	-	-	6.849 df=6
	b) 1-3 years	1	3.33	10	33.33	-	-	-	-	<b>NS</b>
	c) 3-5 years	-	-	1	3.33	-	-	-	-	
	d) Above 5 years	1	6.67	7	23.33	2	6.67	-	-	

**NS- Non Significant**

Table 7 shows the association of the post test level of anxiety among the elderly people in experimental group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.

The findings showed that there was no significant association of the post test level of anxiety among the elderly people in the experimental group with their selected demographic variables at  $p < 0.05$  level.

**Table 8: Association of post test level of anxiety of elderly people in control group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.**

(N=30)

S. No	Demographic Variables	Post test level of anxiety								$\chi^2$ value
		No anxiety		Mild anxiety		Moderate anxiety		Severe anxiety		
		F	%	F	%	f	%	f	%	
1.	Age									
	a) 61- 70 yrs	-	-	4	13.33	12	40	-	-	2.25 df =6 NS
	b) 71-80 yrs	-	-	5	16.67	5	16.67	-	-	
	c) 81- 90 yrs	-	-	1	3.33	2	6.67	-	-	
	d) Above 90yrs	-	-	-	-	1	3.33	-	-	
2.	Sex									1.15
	a) Male	-	-	5	16.67	6	20	-	-	df=2
	b) Female	-	-	5	16.67	14	46.66	-	-	NS
3.	Educational Status									
	a) Illiterate	-	-	4	13.33	8	26.67	-	-	0.00 df=10 NS
	b) Primary education	-	-	5	16.67	10	33.33	-	-	
	c) High school education	-	-	1	3.33	2	6.67	-	-	
	d) Higher secondary	-	-	-	-	-	-	-	-	
	e) Diploma / graduate	-	-	-	-	-	-	-	-	
	f) Post graduate	-	-	-	-	-	-	-	-	
4.	Religion									
	a) Hindu	-	-	7	23.33	13	43.34	-	-	200.47 df=4 NS
	b) Muslim	-	-	-	-	-	-	-	-	
	c) Christian	-	-	3	10	7	23.33	-	-	

<b>5.</b>	<b>Occupation</b>									
	a) Unemployed	-	-	1	3.33	10	33.34	-	-	5.94
	b) Coolie	-	-	8	26.67	10	33.33	-	-	df=6
	c) Private employee	-	-	1	3.33	-	-	-	-	<b>NS</b>
	d) Government employee	-	-	-	-	-	-	-	-	
<b>6.</b>	<b>Monthly income</b>									
	a) Nil	-	-	2	6.67	9	30	-	-	43.34
	b) Below Rs.1000	-	-	4	13.33	5	16.67	-	-	df=6
	c) Rs.1001 – Rs.5000	-	-	4	13.33	6	20	-	-	<b>NS</b>
	d) Above Rs.5000	-	-	-	-	-	-	-	-	
<b>7.</b>	<b>Marital Status</b>									
	a) Unmarried	-	-	4	13.33	7	23.33	-	-	5.45
	b) Married	-	-	-	-	3	10	-	-	df=8
	c) Widow/ Widower	-	-	5	16.67	7	23.33	-	-	<b>NS</b>
	d) Divorced	-	-	-	-	3	10	-	-	
	e) Separated	-	-	1	3.34	-	-	-	-	
<b>8.</b>	<b>Number of children</b>									
	a) No children	-	-	5	16.67	6	20	-	-	1.02
	b) One	-	-	1	3.33	2	6.67	-	-	df=6
	c) Two	-	-	1	3.33	5	16.67	-	-	<b>NS</b>
	d) Three and above	-	-	3	10	7	23.33	-	-	

<b>9.</b>	<b>Mode of admission</b>									
	a) Voluntary Admission	-	-	1	3.33	3	10	-	-	0.14 df=6
	b) Admission by relatives/ friends	-	-	9	30	17	56.67	-	-	<b>NS</b>
	c) Admission by police	-	-	-	-	-	-	-	-	
	d) Admission by NGO`s	-	-	-	-	-	-	-	-	
<b>10.</b>	<b>Duration of stay at old age home</b>									
	a) Below 1 year	-	-	2	6.67	4	13.33	-	-	6.73
	b) 1-3 years	-	-	3	10	14	46.67	-	-	df=6
	c) 3-5 years	-	-	1	3.33	1	3.33	-	-	<b>NS</b>
	d) Above 5 years	-	-	4	13.34	1	3.33	-	-	

**S-Significant****NS- Non Significant**

Table 8 shows the association of post test level of anxiety of elderly people in control group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.

The findings showed that there was no significant association of the post test level of anxiety among the elderly people in the control group with their demographic variables at  $p < 0.05$  level.

## CHAPTER – V

### DISCUSSION

This chapter deals with the discussion of the data analyzed based on the objectives and hypothesis of the study. The problem stated was “A study to assess the effectiveness of aromatherapy massage on level of anxiety among the elderly people residing in selected old age homes at Tirunelveli”.

#### **Major findings of the study were:**

- With regard to the pre test level of anxiety in the experimental group, out of 30 samples, 7(23.33%) of them had mild anxiety, 23(76.67%) of them had moderate anxiety and none of them had severe anxiety and no anxiety.
- With regard to the pre test level anxiety in the control group, out of 30 samples, 11(36.67%) of them had mild anxiety, 19(63.33%) of them had moderate anxiety and none of them had severe anxiety and no anxiety.
- With regard to the post test level of anxiety in experimental group, out of 30 samples, 4 (13.33%) of them had no anxiety, 24 (80%) of them had mild anxiety, 2 (6.67%) of them had moderate anxiety and none of them had severe anxiety.
- With regard to the post test level of anxiety in control group, out of 30 samples, 10 (33.33%) of them had mild anxiety, 20 (66.67%) of them had moderate anxiety and none of them had severe anxiety and no anxiety.
- In experimental group, the pre test mean value was 91.97 with the Standard deviation 17.11. In control group, the pre test mean value was 88.17 with the Standard deviation 16.33. The calculated ‘t’ value was 0.80.

- In experimental group the post test mean value was 62.13 with Standard deviation of 16.19. In control group the post test mean value was 89.37 with Standard deviation of 17.03. The calculated 't' test value was 6.34.
- In experimental group, it showed the mean value of 91.97 with standard deviation 17.11 in pre test and a mean value of 62.13 with standard deviation 16.19 in post test. The mean difference was 29.84. The calculated 't' test value was 6.93.
- There was no significant association of the post test level of anxiety among elderly people in the experimental group with their selected demographic variables
- There was no significant association of the post test level of anxiety among elderly people in control group with their selected demographic variables.

**The first objective was to assess the pre test of anxiety among the elderly people in experimental and control group.**

The experimental group showed a mean value of 91.97 with standard deviation of 17.11 in pre test and the control group showed a mean value of 88.17 with a standard deviation of 16.33 in pre test. The calculated 't' value was 0.80 which showed that there was no significant difference between the pre test level of anxiety among the experimental and control group at  $p < 0.05$  level.

The above objective was supported by a study conducted by **Eric Lenze. J., et al., (2000)** conducted a cross sectional study to measure current and lifetime rates and associated clinical features of anxiety disorders in 182 depressed elderly patients by using a structured diagnostic instrument in primary care and psychiatric settings. The results showed 35% of older subjects with depressive disorders had atleast one

lifetime anxiety disorder diagnosis and 23% had a current diagnosis. The most common current co-morbid anxiety disorders were panic disorder (9.3%), specific phobias (8.8%) and social phobia (6.6%). Symptoms of generalized anxiety disorder were present in 27.5% of depressed subjects. The present study found a relatively high rate of current and lifetime anxiety disorders in elderly depressed individuals.

**The second objective was to assess the post test of anxiety among the elderly people in experimental and control group.**

The experimental group showed a mean value of 62.13 with standard deviation of 16.19 in post test and the control group showed a mean value of 89.37 with a standard deviation of 17.03 in post test. The calculated 't' value was 6.34 which showed that there was a significant difference between the post test level of anxiety among experimental and control group at  $p < 0.05$  level.

The above objective was supported by a study conducted by **Jolanda. V. H. C. M and RixtZiljstra. G. A., (2008)** did a cross sectional study to assess the presence of feelings of anxiety and symptoms of depression among older persons who avoid activity for fear of falling and to assess whether the feelings of anxiety and symptoms of depression are independently associated with the severity of fear of falling and fear related avoidance in two urban areas of Netherlands. Participants include 540 elderly and were administered with self administered questionnaires and 14 item Hospital anxiety and depression scale (HADS). This study shows that 28.2% and 26.1% of the persons with severe fear of falling had feelings of anxiety and symptoms of depression, respectively. These rates were 28.5% and 22.6% for participants with severe fear related activity avoidance. Multivariate analyses revealed that participants with severe fear of falling were more likely to have feelings of anxiety and symptoms of depression than those with mild fear of falling. Furthermore,



persons who reported severe fear related activity avoidance were more likely to have feelings of anxiety than mild avoiders.

**The third objective was to find out the effectiveness of aromatherapy massage on level of anxiety among the elderly people in the experimental and control group.**

In experimental group showed a mean value of 62.13 with standard deviation of 16.19 in post test and the control group showed a mean value of 89.37 with a standard deviation of 17.03 in post test. The calculated 't' value was 6.34 which showed that there was a significant difference between the post test level of anxiety among experimental and control group.

This revealed that the post test level of anxiety was reduced in experimental group than the control group.

Hence the research hypothesis RH<sub>1</sub> stated earlier that "The mean post test level of anxiety among the elderly people in the experimental group will be significantly lower than the mean post test level of anxiety in the control group" was retained at  $p < 0.05$  level.

The above result was supported by **Dunning T, James K.,(2001)** investigated the use of aromatherapy hand and foot massage on 11 patients in a rural rehabilitation setting. An education programme for nurses, carers and family members was developed and implemented. Clinical outcomes--pain, anxiety, joint flexibility and skin condition were evaluated using Likert scales completed before, and after, treatment at three time points and open questions to ascertain patients' feelings about the treatments. Each patient had three treatments, making a total of 33 massages. A significant reduction in pain and anxiety was apparent after all three treatments ( $p = 0.05$ ).

**The fourth objective was to compare the pre test and post test level of anxiety among the elderly people in the experimental group.**

The analysis of pre test level of anxiety among elderly people in experimental group revealed that 23 (76.67%) of them had moderate anxiety, 7 (23.33%) of them had mild anxiety and none of them had severe anxiety and no anxiety.

The analysis of the post test level of anxiety among the elderly people in experimental group revealed that 4 (13.33%) of them had no anxiety, 24 (80%) of them had mild anxiety, 2 (6.67%) of them had moderate anxiety and none of them had severe anxiety.

The experimental group showed a mean value of 91.97 with standard deviation of 17.11 in pre test and the mean of 62.13 with standard deviation of 16.19 in post test. The mean difference was 29.84. The calculated 't' value was 6.93 which showed a significant difference between the pre and post test level of anxiety among experimental group of elderly people at  $p < 0.05$  level.

Hence the research hypothesis  $RH_2$  stated earlier that "The mean post test level of anxiety among elderly people in the experimental group will be significantly lower than their mean pre test level of anxiety" was retained at  $p < 0.05$  level.

The above result was supported by a study conducted by **Jayamala., (2012)** to assess the effectiveness of aromatherapy massage to reduce the level of anxiety among the elderly people in old age homes. The results showed that 75% had moderate level of stress in pre test was reduced to 50% in post test. The study concluded that the aromatherapy massage can be used to reduce the level of anxiety among the elderly.

**The fifth objective was to associate the post test level of anxiety among the elderly people in experimental group and control group with their selected demographic variables.**

The data findings showed that there was no significant association of the post test level of anxiety among the elderly people in experimental group and control group with their selected demographic variables.

Hence the research hypothesis RH<sub>3</sub> stated earlier that “There was a significant association of the post test level of anxiety among the elderly people in the experimental group and control with their selected demographic variables” was rejected in experimental group and control group at  $p < 0.05$  level.

**Kari kvaal., (2003)** conducted a cross sectional study to test the hypothesis that typical characteristics of geriatric patients are associated with a higher level of anxiety symptomatology. The data was from the Norwegian Health survey 1995, a random population study which was carried out by statistics Norway and used the 25-item version of the Hopkins symptoms checklist (HSCL), which primarily measures emotional symptoms. The mean score was significantly higher among female participants living alone and subjects with lower education, one or more chronic disorders, problems getting out of the house, and home-nursing/home help. The final model explained somatic symptoms and depressive symptoms markedly better than anxiety symptoms. The effect of gender was restricted to the factor of somatic where women scored significantly higher ( $p < 0.01$ ) and to live alone related solely to depressive symptoms ( $p < 0.002$ ). A worse economy was associated with a higher level of somatic as well as depressive symptoms.

## CHAPTER-VI

### SUMMARY, CONCLUSION, LIMITATIONS, NURSING IMPLICATION AND RECOMMENDATIONS

This chapter deals with the summary, conclusion, limitations, nursing implication and recommendations.

#### SUMMARY

This study was undertaken to assess the effectiveness of aromatherapy massage on level of anxiety among the elderly people in selected old age homes at Tirunelveli.

The number of individuals over age 65 is rapidly expanding. The elderly population is very high in general and growing due to the advancement in the health care technologies and education. The elderly people are suffering from a lot of physical, mental and social problems as they have sudden role changes and changes in their life pattern. Most of the elderly people feel lonely and they experience severe anxiety due to shift of environment from home to old age homes, lack of family support and reduced connections with their culture of origin etc. **National Health Interview Survey** shows that 39% of people over 65 years of age suffer from some limitation of activity due to chronic conditions and 11% are unable to carry out major activities because of their anxiety towards illness and also they suffer from some kind of anxiety disorders.

Many researchers have stated that anxiety is uncontrollable and ambiguity is more stressful for geriatric, which can be predicted, modified or terminated.

Nurses being the central figure in a geriatric care can help to identify the level of anxiety and provide opportunity for these people to cope with the stressful situation.

Aromatherapy massage helps muscles indulge into deep relaxation thus healing the body of the day to day tensions. It also relieves water retention, stimulates the lymphatic system, improves the immune system and gets rid of the body's toxins naturally. The body needs aromatherapy massage as often as possible. It is a great therapy for tension, fatigue or injury. These massage of the back, shoulders, arms, hands, lower legs and feet for 30 minutes. The process of having a gentle massage with aromatherapy oils is a wonderfully relaxing and soothing experience. Depending on an individual's needs, essential oils can be used to soothe, uplift, energize, relax and stimulate.

## **THE OBJECTIVES OF THE STUDY WERE**

1. To assess the pre test level of anxiety among elderly people in experimental and control group.
2. To assess the post test level of anxiety among elderly people in experimental and control group.
3. To find out the effectiveness of aromatherapy massage on level of anxiety among elderly people in experimental group.
4. To compare the pre and post test level of anxiety among elderly people in experimental group.
5. To associate the post test level of anxiety among elderly people in experimental and control group with their selected demographic variables such as age, sex, marital status, education, occupation, monthly income, religion, number of children, mode of admission and duration of stay at old age home.

## **THE RESEARCH HYPOTHESES STATED WERE**

**H<sub>1</sub>:** The mean post test level of anxiety among elderly people in experimental group will be significantly lower than the mean post test level of anxiety in control group.

**H<sub>2</sub>:** The mean post test level of anxiety among elderly people in experimental group will be significantly lower than their mean pre test level of anxiety.

**H<sub>3</sub>:** There will be a significant association between the post test level of anxiety among elderly people in experimental and control group with their selected demographic variables such as age, sex, education, religion, occupation, monthly income, marital status, number of children, mode of admission and duration of stay at old age home.

## **THE ASSUMPTIONS WERE**

- Institutionalized elderly people may have anxiety.
- Female elderly people may have more anxiety than male.
- Aromatherapy massage may reduce anxiety among institutionalized elderly people.

## **THE REVIEW OF LITERATURE COLLECTED FOR THE STUDIES WERE**

**Section-A** Studies related to anxiety among elderly persons.

**Section-B** Studies related to use of lavender oil.

**Section-C** Studies related to aromatherapy massage on anxiety.

The theoretical frame work for this study was based on the Roy`s adaptation model. This provides a comprehensive framework for assessment, implementation and evaluation of the intervention program.

The research design selected for this study was quasi experimental pre test and post test control group design. The study was conducted at UVSS New life old age home and Andhicholi old age home at Tirunelveli. The tool used for data collection consisting of two sections. Section-A consists of demographic variables. It includes age, sex, marital status, education, occupation, income, religion, number of children, mode of admission and duration of stay at old age home. Section-B consists of Speil Berger`s State-trait anxiety inventory which was used for the study to assess the level of anxiety among the elderly people.

The tool was validated by five experts consisting of four nursing experts and one medical expert in the field of psychiatry. The reliability of the tool was confirmed by test retest method by using Karl Pearson`s formula. The value of the reliability was  $r=0.9$  which showed a highly positive correlation of the tool. The pilot study was conducted and findings revealed that the tool was feasible and practicable to conduct the study. The main study was conducted in UVSS New life old age home and Andhicholi old age home at Tirunelveli. Sixty elderly people who fulfilled the inclusive criteria were selected for the study, out of which 30 elderly people from UVSS New life old age home were allotted to experimental group and 30 elderly people from the Andhicholi old age home were allotted to the control group.

## **FINDINGS**

The data was collected and analyzed by using the descriptive and inferential statistics. The findings revealed that there was a significant difference in the level of

Anxiety of elderly people after the administration of aromatherapy massage. The calculated 't' value was 6.34 which showed a highly significant difference in the post test level of anxiety between the experimental and control group of elderly people at  $p < 0.05$  level. Hence the research hypothesis stated that "the mean post test level of anxiety among the elderly people in the experimental group will be significantly lower than the mean post test level of anxiety in the control group" was retained at  $p < 0.05$  level.

Data findings revealed that there was no significant association of the post test level of anxiety in experimental group and control group with their selected demographic variables.

## **CONCLUSION**

From the result of the study, it was concluded that providing aromatherapy massage to the elderly people was very effective in reducing anxiety. Therefore the investigator felt that more importance should be given for aromatherapy massage to reduce anxiety among the elderly people.

## **IMPLICATIONS**

The researcher has derived the following implications from the study which are of vital importance in the field of nursing service, nursing administration, nursing education and nursing research.

### **Implications for Nursing Practice**

1. Nurses should acquire thorough knowledge about the psychological problems of the elderly people.



2. Nurses have in depth knowledge regarding the benefits of aromatherapy massage for the elderly people.
3. Nurses can encourage the practice of aromatherapy massage for the elderly people.
4. Nurses can practice aromatherapy massage in the psychiatric hospitals and community settings as a part of the routine nursing care.

### **Implications for Nursing Education**

1. The nurse educators need to be ready with adequate knowledge regarding complementary and alternative therapies.
2. Nursing students can receive adequate practice in aromatherapy massage and the benefits of aromatherapy massage in reducing the emotional and psychological problems.
3. Conduct workshops and conferences for students regarding the use of complementary and alternative therapies in day today nursing practice.
4. Nurse educator can take interest to include the aromatherapy massage in nursing curriculum.

### **Implications for Nursing Administration**

1. Nurses can assist in implementing public health awareness campaigns aimed at promoting aromatherapy massage programs to the elderly people.
2. Nurses can provide knowledge, resources and leadership for establishing public health policies that focus on aromatherapy massage for reducing the level of anxiety of elderly people.
3. Public information programs can be designed by nurses to encourage the practice of aromatherapy massage.

4. Nurse administrators can conduct training programs on aromatherapy massage for student and staff nurses.
5. Nurse administrator can incorporate the aromatherapy massage in the hospital policy.

### **Implications for Nursing Research**

As a nurse researcher:

1. Nurse can conduct research to further clarify the benefits and optimal association of aromatherapy massage programs for the elderly people.
2. Encourage further research to be conducted to find the effectiveness of aromatherapy massage on level of anxiety among the elderly people.
3. Disseminate the findings of the research through conferences, workshops, seminars and publishing in nursing journals.

### **LIMITATIONS**

1. The study is limited to four weeks.
2. The study is limited to the elderly people residing in the old age homes at Tirunelveli.
3. The study is limited to the elderly people above 60 years of age.

### **RECOMMENDATIONS**

The following studies can be undertaken to strengthen aromatherapy massage as a good remedy for the psychological and emotional problems of the elderly people.

1. A similar study can be conducted with larger samples.
2. A similar study can be conducted for the patients with other conditions like stress and depression.

3. A similar study can be conducted for school students to reduce their examination anxiety.
4. A similar study can be conducted among the wife's of alcoholics to reduce anxiety and stress.
5. A comparative study can be conducted on aromatherapy massage Vs laughter therapy in level of anxiety among elderly people.

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## APPENDIX-A

### LETTER SEEKING AND GRANTING PERMISSION FOR CONDUCTING THE STUDY



#### SRI K. RAMACHANDRAN NAIDU COLLEGE OF NURSING

Approved by Govt. of Tamilnadu and Indian Nursing Council / T.N.C  
Affiliated to the Tamilnadu Dr. M.G.R. Medical University

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To,

The Secretary  
UVSS old age home,  
New life home for aged destitute,  
Eruvadi  
Tirunelveli (Dist) - 627 103

Ms.T.Malathi is a bonafide student of our college studying in M.Sc (N) programme.  
As a partial fulfillment of the university requirement for the award of the M.Sc (N) degree,  
she needs to conduct research project.

Her chosen research project is as follows "A study to assess effectiveness of  
Aromatherapy massage on level of anxiety among elderly people residing at selected  
old age homes in Tirunelveli District".

She will abide by rules and regulation of the old age home and adhere to the policies  
during her period of data collection from 01.08.2013 to 31.08.2013. Permission may kindly  
be granted to her for conduction of the study at your esteemed Center.

Further details of the proposal project will be furnished by the students personally,  
confidentiality will be ensured in the research project.

Thanking you

*Resubmitted.*  
*Shankar*  
18/13

**SECRETARY.**

UVSS - NEW LIFE HOME FOR  
AGED DISTITUES  
Recogn. No: 546/2003  
29, VALLIOOR-ERUVADI HIGH ROAD  
PIN. 627 103.

Yours faithfully

*Sankarathil N.*

Principal  
Sri K. Ramachandran Naidu  
College of Nursing  
K.R. Naidu Nagar - 627 753, Karivalam (Via)  
Sankarankovil (T.K.) Tirunelveli Dt.,



## SRI K. RAMACHANDRAN NAIDU COLLEGE OF NURSING

Approved by Govt. of Tamilnadu and Indian Nursing Council / T.N.C  
Affiliated to the Tamilnadu Dr. M.G.R. Medical University

K.R. Naidu Nagar - 627 753, Paruvakudi Village, Post Bag No.1, Karvalam (via)  
Sankarankovil (Tk), Tirunelveli (Dt), Ph. : 04636 - 260950, Fax : 04636 - 260377.  
E - Mail : srikmcn@yahoo.com Web : srikmaiducollegeofnursing.org

To,

The Secretary  
Anthicholai old age home,  
Nanguneri,  
Tirunelveli (Dist) - 627 108

Ms.T.Malathi is a bonafide student of our college studying in M.Sc (N) programme.  
As a partial fulfillment of the university requirement for the award of the M.Sc (N) degree,  
she needs to conduct research project.

Her chosen research project is as follows **"A study to assess effectiveness of  
Aromatherapy massage on level of anxiety among elderly people residing at selected  
old age homes in Tirunelveli District"**.

She will abide by rules and regulation of the old age home and adhere to the policies  
during her period of data collection from 01.08.2013 to 31.08.2013. Permission may kindly  
be granted to her for conduction of the study at your esteemed Center.

Further details of the proposal project will be furnished by the students personally,  
confidentiality will be ensured in the research project.

Thanking you

Yours faithfully

Principal  
Sri K. Ramachandran Naidu  
College of Nursing  
K.R. Naidu Nagar - 627 753, Karvalam (Via)  
Sankarankovil (T.N.) Tirunelveli Dt.,

Permitted.  
17/8/13  
OLD AGE HOME  
ANASAN FURAL DEVELOPMENT SOCIETY  
NANGUNERI - 627108  
Tirunelveli - Dist

## APPENDIX-B

### LETTER SEEKING EXPERT'S OPINION FOR CONTENT VALIDITY

From

T. Malathi,  
M.Sc (N) II year,  
Sri.K.Ramachandran Naidu College of Nursing,  
Sankarankovil (Tk), Tirunelveli (Dt).

To

Respected Sir/Madam,

**Subject:** Request for opinion and suggestions of expert for establishing content validity of research tool.

I T. Malathi II year student of Master of nursing course (Mental health Nursing) at Sri.K.Ramachandran Naidu College of Nursing. I have selected the topic for my dissertation, **“A study to assess the effectiveness of Aromatherapy massage on level of anxiety among elderly people residing in selected old age homes atTirunelveli.”** to be submitted to Dr. M.G.R. Medical University, in partial fulfillment of university requirement for award of master of nursing degree. I humbly request you to kindly validate the tool and give your valuable suggestions. Your prompt opinions and suggestions will be appreciated.

Thanking you,

Place:

Yours faithfully,

Date:

(T. Malathi)

Enclosures:

- Content validation certificate
- Statement of problem, objectives of the study, operational definitions, methodology
- Research tool
- Criteria check list for validation of tool.

## **APPENDIX-C**

### **LIST OF EXPERTS FOR CONTENT VALIDITY**

**1. Dr.PaneerSelvan**

M.B.B.S., M.D. (Psychiatry) NIMHANS,  
Consultant Psychiatrist  
Sneka Mind Care Centre,  
South Bye Pass Road, Tirunelveli-627 005  
Tamil Nadu.

**2. Prof. (Mrs). Jancy Rachel**

Professor in Mental Health Nursing,  
CSI JeyarajAnnapackiyam College of Nursing,  
Pasumalai,  
Madurai.

**3. Prof. (Mrs).Jesintha**

Professor in Mental Health Nursing,  
Sacred heartCollege of Nursing,  
Madurai.

**4. Prof. (Mrs). Mary Jeya**

Associate Professor in Mental Health Nursing  
Nehru College of Nursing,  
Vallioor.

**5. Prof.(Mr). Anand**

Associate Professor in Mental Health Nursing,  
Upasana College of Nursing,  
Kollam,  
Kerala.

## APPENDIX – D

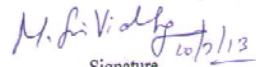
### CERTIFICATE OF ENGLISH EDITING

#### TO WHOMSOEVER IT MAY CONCERN

This is to certify that the Speil Berger's State trait anxiety inventory for the dissertation work on "A study to assess the effectiveness of Aromatherapy massage on level of anxiety among the elderly people in selected old age homes at Tirunelveli." done by Mrs. T. Malathi, II year M.Sc Nursing of Sri. K. Ramachandran Naidu College of Nursing, Tirunelveli is edited for English language appropriateness by

---

Date: 10.7.2013

  
Signature  
M. SRI VIDHYA, M.A., M.Phil.,  
GUEST LECTURER  
RANI ANNA GOVT. ARTS COLLEGE  
Designation  
TIRUNELVELI - 627008.  
(DEPT. OF ENGLISH)

## APPENDIX – E

### CERTIFICATE OF TAMIL EDITING

#### TO WHOMSOEVER IT MAY CONCERN

This is to certify that the Speil Berger's State trait anxiety inventory for the dissertation work on "A study to assess the effectiveness of Aromatherapy massage on level of anxiety among the elderly people in selected old age homes at Tirunelveli." done by Mrs. T. Malathi, II year M.Sc Nursing of Sri. K. Ramachandran Naidu College of Nursing, Tirunelveli is edited for Tamil language appropriateness by

---

Date: 10.07.2013

  
Signature

R. CHINNAPPA Designation A.M.Phil.,B.Ed.,  
Lecturer (Tamil Dept.),  
Rani Anna Govt. Arts College for Women,  
TIRUNELVELI - 627 009.

## **APPENDIX-F**

### **COPY OF TOOL FOR DATA COLLECTION- ENGLISH**

#### **SECTION –A DEMOGRAPHIC VARIABLES**

**Direction: Please put a tick mark ( ) in the corresponding box with the appropriate response**

##### **I) Age**

- |                   |     |
|-------------------|-----|
| 1) 61-70 years    | ( ) |
| 2) 71-80 years    | ( ) |
| 3) 81-90 years    | ( ) |
| 4) Above 90 years | ( ) |

##### **II) Sex**

- |           |     |
|-----------|-----|
| 1) Male   | ( ) |
| 2) Female | ( ) |

##### **III) Education**

- |                          |     |
|--------------------------|-----|
| 1) Illiterate            | ( ) |
| 2) Primary education     | ( ) |
| 3) High school education | ( ) |
| 4) Higher secondary      | ( ) |
| 5) Diploma/Graduate      | ( ) |
| 6) Post graduate         | ( ) |

##### **IV) Religion**

- |              |     |
|--------------|-----|
| 1) Hindu     | ( ) |
| 2) Muslim    | ( ) |
| 3) Christian | ( ) |

**V) Occupation**

- |                        |     |
|------------------------|-----|
| 1) Unemployed          | ( ) |
| 2) Coolie              | ( ) |
| 3) Private employee    | ( ) |
| 4) Government employee | ( ) |

**VI) Monthly income**

- |                   |     |
|-------------------|-----|
| 1) Nil            | ( ) |
| 2) Below Rs1000   | ( ) |
| 3) Rs 1001-Rs5000 | ( ) |
| 4) Above Rs5000   | ( ) |

**VII) Marital status**

- |              |     |
|--------------|-----|
| 1) Unmarried | ( ) |
| 2) Married   | ( ) |
| 3) Widow     | ( ) |
| 4) Divorced  | ( ) |
| 5) Separated | ( ) |

**VIII) Number of children**

- |                    |     |
|--------------------|-----|
| 1) No children     | ( ) |
| 2) One             | ( ) |
| 3) Two             | ( ) |
| 4) Three and above | ( ) |



**IX) Mode of admission**

- 1) Voluntary admission ( )
- 2) Admission through relatives/ friends ( )
- 3) Admission through police ( )
- 4) Admission through NGO`s ( )

**X) Duration of stay at old age home**

- 1) Below 1 year ( )
- 2) 1- 3 years ( )
- 3) 3-5 years ( )
- 4) Above 5 years ( )

## Section – B SPEIL BERGER`S STATE - TRAIT ANXIETY INVENTORY

**Direction:** A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate box to the right of the statement to indicate how you feel right now that is at this moment. There is no right or wrong answers. Do not spend too much on any one statement but give the answer which seems to describe your present feelings best.

S.No	Items	Not at all (1)	Some what (2)	Moderately so (3)	Very much so (4)
1,	I feel calm.				
2,	I feel secure.				
3,	I am tensed.				
4,	I feel strained.				
5,	I feel at ease.				
6,	I feel upset.				
7,	I am presently worrying over possible misfortunes.				
8,	I feel satisfied.				
9,	I feel frightened.				
10,	I feel comfortable.				
11,	I feel confident.				
12,	I feel nervous.				
13,	I am jittery.				
14,	I feel indecisive.				
15,	I am relaxed.				
16,	I am content.				
17,	I am worried.				
18,	I feel confused.				
19,	I feel steady.				

20,	I feel pleasant.				
21,	I feel unpleasant.				
22,	I feel nervous and restless.				
23,	I feel satisfied with myself.				
24,	I am as happy as others.				
25,	I feel like a failure.				
26,	I feel rested.				
27,	I am calm, cool and collected.				
28,	I feel that difficulties are piling up so that I cannot overcome them.				
29,	I worry too much over something that really doesn't matter.				
30,	I am happy.				
31,	I have disturbing thoughts.				
32,	I lack self confidence.				
33,	I feel secure.				
34,	I make decision easily.				
35,	I feel inadequate.				
36,	I am contented.				
37,	Some unimportant thoughts run through my mind and bother me.				
38,	I take disappointments so keenly that I can keep them out of my mind.				
39,	I am steady person.				
40,	I get in state of tension or turmoil as I think over my recent concerns and interests.				

## APPENDIX-G

### COPY OF TOOL FOR DATA COLLECTION -TAMIL

#### பகுதி-அ வாழ்வியல் விபரங்கள்

##### I) வயது

- 1) 61 – 70 ( )
- 2) 71 – 80 ( )
- 3) 81 – 90 ( )
- 4) 90க்கு மேல் ( )

##### II) பாலினம்

- 1) ஆண் ( )
- 2) பெண் ( )

##### III) கல்வித்தகுதி

- 1) படிப்பறிவு அற்றவர் ( )
- 2) தொடக்கக்கல்வி ( )
- 3) உயர்நிலைக்கல்வி ( )
- 4) மேல்நிலைக்கல்வி ( )
- 5) பட்டயப்படிப்பு / இளநிலை பட்டப்படிப்பு ( )
- 6) முதுநிலை பட்டப்படிப்பு ( )

##### IV) மதம்

- 1) இந்து ( )
- 2) இஸ்லாம் ( )
- 3) கிறிஸ்தவம் ( )

##### V) தொழில்

- 1) வேலை அற்றவர் ( )
- 2) கூலி வேலை செய்பவர் ( )
- 3) தனியார் வேலை செய்பவர் ( )
- 4) அரசு வேலை செய்பவர் ( )

VI) மாத வருமானம்

- 1) இல்லை ( )
- 2) ரூபாய் 1000க்கு கீழ் ( )
- 3) 1001-5000 ரூபாய் ( )
- 4) ரூபாய் 5000 க்கு மேல் ( )

VII) திருமணம் பற்றிய தகவல்

- 1) திருமணமாகாதவர் ( )
- 2) திருமணம் ஆனவர் ( )
- 3) துணை இழந்தவர் ( )
- 4) விவாகரத்து பெற்றவர் ( )
- 5) பிரிந்து இருப்பவர் ( )

VIII) குழந்தைகளின் எண்ணிக்கை

- 1) இல்லை ( )
- 2) 1 ( )
- 3) 2 ( )
- 4) 3 ம் அதற்கு மேல் ( )

IX) அனுமதிக்கப்பட்ட முறை

- 1) தனியாக ( )
- 2) உறவினர் அல்லது நண்பர்களுடன் ( )
- 3) காவல் துறையினரால் ( )
- 4) தொண்டு நிறுவனம் மூலம் ( )

X) தங்கியிருக்கும் காலம்

- 1) 1 வருடத்திற்கு கீழ் ( )
- 2) 1 முதல் 3 வருடம் ( )
- 3) 3 முதல் 5 வருடம் ( )
- 4) 5 வருடத்திற்கு மேல் ( )

**பிரிவு-ஆ ஸ்பெய்ல் பெர்க்கர் ஸ்டேட் ட்ரெயிட் அன்சைட்டி இன்வன்டரி**

வ. எண்	குறிப்புகள்	இல்லை (1)	ஓரளவு (2)	அதிகமாக (3)	மிகவும் அதிகமாக (4)
1	நான் அமைதியாக இருப்பதாக உணர்கிறேன்.				
2	நான் பாதுகாப்பாக இருப்பதாக உணர்கிறேன்.				
3	நான் பயத்துடனும், கவலையுடனும் இருக்கிறேன்.				
4	நான் மிகவும் கஷ்டப்படுவதாக உணர்கிறேன்.				
5	நான் பிரச்சனை இல்லாமல் இருப்பதாக உணர்கிறேன்.				
6	நான் திகைப்புடன் இருப்பதாக உணர்கிறேன்.				
7	நான் இப்போழுது ஏதாவது தகாத காரியங்கள் நிகழ்ந்து விடுமோ என பயப்படுகிறேன்				
8	நான் திருப்தியாக இருப்பதாக உணர்கிறேன்.				
9	நான் பயமுறுத்தப்படுவதாக உணர்கிறேன்.				
10	நான் நல்ல சூழ்நிலையில் இருப்பதாக உணர்கிறேன்.				
11	நான் நம்பிக்கையுடன் இருப்பதாக உணர்கிறேன். நான் படபடப்பாய் இருப்பதாக உணர்கிறேன்.				
12	நான் பயத்துடன் இருக்கிறேன்.				
13	நான் எதையும் தீர்மானிப்பதில் திணறுகிறேன்.				
14	நான் ஓய்வுடன் இருக்கிறேன்.				
15	நான் திருப்தியாக இருக்கிறேன்.				
16	நான் வருத்தத்துடன் இருக்கிறேன்.				
17	நான் குழப்பமாக இருப்பதாக உணர்கிறேன்.				

18	நான் எவ்விதமாற்றமும் இல்லாமல் உறுதியாக				
19	இருப்பதாக உணர்கிறேன். நான் மகிழ்ச்சியாக இருப்பதாக உணர்கிறேன்.				
20	நான் மகிழ்ச்சியற்றவனாக உணர்கிறேன்.				
21	நான் படபடப்புடன் ஓய்வற்று				
22	இருப்பதாக உணர்கிறேன். நான்				
23	எனக்குள்ளே திருப்திபட்டு கொண்டிருக்கிறேன். நான் மற்றவர்களை போலவே சந்தோஷமாக				
24	இருக்கிறேன். நான் தோல்வியற்றதாக உணர்கிறேன்.				
25	நான் ஓய்வுடன் இருப்பதாக உணர்கிறேன்.				
26	நான் அமைதியுடனும், சந்தோஷதுடனும்				
27	ஒற்றுமையுடனும் இருக்கிறேன். பிரச்சனைகள் என்னை				
28	சூழ்ந்து கொண்டிருப்பதால் அவைகளை என்னால் மேற்கொள்ள முடியவில்லை என்று நான் உணர்கிறேன். உண்மையில்				
29	ஒன்றுமில்லாத காரியங்களுக்காக நான் அதிகமாக கவலைபட்டு கொண்டிருக்கிறேன் நான் சந்தோஷமாக இருக்கிறேன்.				
30	நான் என்னை சலனப்படுத்தும் எண்ணங்களுடன்				
31	இருக்கிறேன். எனக்கு தன்னம்பிக்கை குறைவாக உள்ளது.				
32	நான் பாதுகாப்பாக இருப்பதாக உணர்கிறேன்.				
33	நான் எளிதாக முடிவு எடுப்பேன்.				
34	நான் தேவையுடன் இருப்பதாக உணர்கிறேன்.				
35	நான் திருப்தியாக இருந்தேன்.				

36	பலதேவையற்றஎண்ணங்கள்				
37	என்னைசுற்றிஓடிக்கொண்டிருந்துஎன்னைதொந்தரவு செய்கின்றன. நான்				
38	ஏமாற்றமடைந்தவிஷயங்களைகவனத்துடன் ஆராய்ந்துபார்த்துஎன் மனதைவிட்டுஅகற்றிவிடுவேன்.				
39	நான் உறுதியானவன் /உறுதியானவள்.				
40	எனக்குவிருப்பமானதற்போதையவேலைகளைநினை னக்கும் பொழுதுநான் மிகுந்தகுழப்பத்திற்குஉள்ளாகிறேன்.				



## **APPENDIX-H**

### **DESCRIPTION OF TOOL AND SCORING KEY**

It consists of Speil Berger`s State-trait anxiety inventory. This is a self evaluation questionnaire developed by Charles. D. Speil Berger in 1968. It is standardized tool consists of 40 items with 20 state and 20 trait anxiety statement. No time limit but the persons is instructed to do as quickly as possible.

### **SCORING PROCEDURE**

Section –B consists of Speil Berger`s State-trait anxiety inventory. It consists of 40 items with four point scale. Total score of the scale is 160. Score is interpreted as,

#### **State anxiety [20items]**

Items in the state anxiety scale will be scored as follows,

Direct scoring items : 3,4,6,7,9,12,13,14,17&18.

Reverse scoring items : 1, 2, 5, 8, 10, 11, 15, 16, 19 & 20.

#### **Trait anxiety [20items]**

Items in the trait anxiety scale will be scored as follows,

Direct scoring items : 22, 24, 25, 28, 29, 31, 32, 35, 37 & 40.

Reverse scoring items : 21, 23, 26, 27, 30, 33, 34, 36, 38 & 39.

The level of anxiety is categorized as,

DESCRIPTION	SCORE
No anxiety	40
Mild level of anxiety	41- 80
Moderate level of anxiety	81-120
Severe level of anxiety	121-160

## **APPENDIX-I**

### **CERTIFICATE OF INFORMED CONSENT**

Dear senior citizens,

I **Mrs. T. MALATHI** M.Sc (N) II year student from Sri. K. Ramachandran Naidu College of Nursing, Tirunelveli is conducting a study to assess the effectiveness of aromatherapy massage on level of anxiety among elderly people in selected old age homes at Tirunelveli, as a partial fulfillment of the requirement for the degree of M. Sc in Nursing under the Tamil Nadu Dr. M.G.R. Medical University. The elderly people's level of anxiety will be assessed using Spielberger's State Trait anxiety inventory. I assure that the responses given by you will be used only for my study purpose. There is no right or wrong answers. So please feel free in answering the questions. Then I will administer aromatherapy massage to you. This will be promoting your welfare.

So, I request you to kindly give your full co-operation and willingness to conduct this study effectively and successfully.

Thank you.

## APPENDIX- J

### CERTIFICATE FOR AROMA THERAPY MASSAGE



#### THE VALLIAMMAL INSTITUTION (TVI)

11/6 B.B. Road 2<sup>nd</sup> St., Pankajam Colony, Madurai-625 009.

☎ 98430 40226; 98942 49630 email: ananthibetsy@rediffmail.com

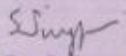
#### Certificate Course in Basic Counselling Skills and Aroma Therapy. Massage

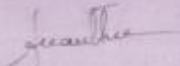
Reg. No. PCC/31/July 2013/233

Date: 22/07/2013

*This is to certify that .....**T.MALATHI**..... has completed  
our **CERTIFICATE COURSE IN BASIC COUNSELLING SKILLS  
AND AROMA THERAPY MASSAGE** (24 hrs Part-time  
Education Programme designed and offered by experts) by  
effectively participating in theory & practical classes and  
successfully completing all the exercises. She has been  
placed in First Class*



  
Prof. Dr. S. Jeyapragasam M.Sc., M.A., M.A., Ph.D.,  
Director  
Rajarajan Institute of Science (RISE)

  
Dr. B. Ananthavalli M.Sc., M.A., M.Phil., Ph.D.,  
Director & Secretary  
The Valliammal Institution (TVI)

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that the Speil Berger's State trait anxiety inventory for the dissertation work on " A study to assess the effectiveness of Aromatherapy massage on level of anxiety among the elderly people in selected old age homes at Tirunelveli." done by Mrs. T. Malathi, II year M.Sc Nursing of Sri. K. Ramachandran Naidu College of Nursing, Tirunelveli is edited for Tamil language appropriateness by

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Date: 10.07.2013

  
Signature

Designation  
R. CHINNATHIRAI A., M.Phil., B.Ed.,  
Lecturer (Tamil Dept.),  
Rani Anna Govt. Arts College for Women,  
TIRUNELVELI - 627 009.

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that the Spielberger's State trait anxiety inventory for the dissertation work on "A study to assess the effectiveness of Aromatherapy massage on level of anxiety among the elderly people in selected old age homes at Tirunelveli." done by Mrs. T. Malathi, II year M.Sc Nursing of Sri. K. Ramachandran Naidu College of Nursing, Tirunelveli is edited for English language appropriateness by

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Date: 10.7.2013

M. Sri Vidhya 10/7/13  
Signature

M. SRI VIDHYA, M.A., M.Phil.,  
GUEST LECTURER  
RANI ANNA GOVT. ARTS COLLEGE  
Designation

TIRUNELVELI - 627008.  
(DEPT. OF ENGLISH)